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From: Commandant of the Marine Corps
To: Distribution List

Subj: CH-53 TRAINING AND READINESS (T&R) MANUAL

Ref: (a) NAVMC 3500.14B

Encl: (1) CH-53 T&R MANUAL

1. Purpose. To revise standards and regulations regarding the training of CH-53 aircrew per the reference.

2. Cancellation. NAVMC 3500.47

3. Scope. Significant changes in this revision include the following:

a. Mission Essential Task (MET) incorporation to facilitate MET-based readiness.

b. Incorporation of Marine Corps Task (MCT) list versus Universal Joint Task List (UJTL).

c. Emphasis on Mission Skills versus Core Skills to support MET-based reporting.

d. Re-naming and re-numbering of Phases from 3-digit to 4-digit codes.

e. Standardized Naval Air Training Operational Procedures Standardization Program (NATOPS) and instrument evaluation policy.

f. Standardized Fleet Replacement Squadron (FRS) and Basic Instructor Pilot (BIP) Programs of Instruction (POI).

g. Addition of FRS Table of Organization.

h. Addition of Aviation Career Progression Model (ACPM) training requirements.

i. Revision to Chapter 1 to improve metrics and standards for aircrew readiness reporting.

4. Information. Recommended changes to this publication are invited and may be submitted via the syllabus sponsor and the appropriate chain of command to: Commanding General (CG), Training and Education Command (TECOM), Aviation Training Division (ATD) using standard Naval Correspondence or the Automated Message Handling System plain language address: CG TECOM ATD.

5. Command. This Manual is applicable to the Marine Corps Total Force.

6. Certification. Reviewed and approved this date.

R. C. FOX
By direction

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CHAPTER 1

CH-53D/E UNIT TRAINING AND READINESS REQUIREMENTS

CHAPTER 1

CH-53E TRAINING AND READINESS UNIT REQUIREMENTS

100. CH-53E TRAINING AND READINESS UNIT REQUIREMENTS. The goal of Marine Aviation is to attain and maintain combat readiness to support Expeditionary Maneuver Warfare while conserving resources. The standards established in this program are validated by subject matter experts to maximize combat capabilities for assigned Mission Essential Tasks (METs). These standards describe and define unit capabilities and requirements necessary to maintain proficiency in mission skills and combat leadership. Training events are based on specific requirements and performance standards to ensure a common base of training and depth of combat capability.

101. CH-53E MISSION. Support the MAGTF Commander by providing assault support transport of heavy equipment, combat troops, and supplies, day or night under all weather conditions during expeditionary, joint, or combined operations.

102. CH-53E TABLE OF ORGANIZATION (T/O). Refer to Table of Organization (T/O) 8960 managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for CH-53E units. As of this publication date, CH-53E units are authorized:

HMH CH-53E T/O#8960

Squadron
16 Aircraft
38 Pilots
26 Crew Chiefs
26 Aerial Observers/Aerial Gunners

Squadron(-)
12 Aircraft
30 Pilots
20 Crew Chiefs
20 Aerial Observers / Aerial Gunners

Detachment
4 Aircraft
8 Pilots
6 Crew Chiefs
6 Aerial Observers/Aerial Gunners

Reserve Squadron
8 Aircraft
19 Pilots
13 Crew Chiefs
13 Aerial Observers/Aerial Gunners

HMH FRS
17 Aircraft
24 Instructor Pilots
11 Crew Chief Instructors
24 Crew Chiefs
24 Aerial Observers/Aerial Gunners

103. CH-53E SKILL ABBREVIATIONS. Shading indicates Core Plus/Mission Plus Skills.

CORE SKILLS	
FAM/INST	Familiarization / Instrument
INT	Internal Loading
FORM	Formation
CAL	Confined Area Landing
TERF	Terrain Flight
EXT	External Operations
HAAR	Aerial Refueling
FCLP	Field Carrier Landing Practice
AG	Aerial Gunnery
XMAG	XM-218 Aerial Gunnery
GAUAG	GAU-21 Aerial Gunnery
AGC	Aerial Gunnery Conversion XM-218 to GAU-21
GTR	Ground Threat Reaction
TAC	Tactics
NS HLL	Night Systems High Light Level
NS LLL	Night Systems Low Light Level
MISSION SKILLS	
EXP	Expeditionary Operations Shore Based
AT	Assault Transport
AD	Aerial Delivery
TRAP	Tactical Recovery of Aircraft and Personnel
AE	Air Evacuation
CORE PLUS SKILLS	
HIE	Helicopter Insertion Extraction
TERF EXT	Terrain Flight External
GTR	Ground Threat Reaction
DM	Defensive Measures
CBRN	Chemical, Biological, Radiological and Nuclear
MTG	Moving Target Gunnery
TG	Tail Gunnery
CQ	Carrier Qualification
TAC	Tactics
MISSION PLUS SKILLS	
RAID	Raid Insertion/Extraction
ADGR	Aviation-Delivered Ground Refueling
SEA	Expeditionary Operations Sea Based

104. CH-53E MISSION ESSENTIAL TASK LIST (METL)

1. Core METL. The METL is a list of specified tasks an HMH squadron is designed to perform. Core METs, standardized by type unit, are drawn from the Marine Corps Task List (MCTL) and are used for unit readiness. Core Plus METs are additional METs that are theater specific and/or have a low likelihood of occurrence. Core Plus METs may be included in readiness reporting when contained within an Assigned Mission METL. An Assigned Mission METL consists of only the selected MCTs (drawn from Core and Core Plus METs) necessary for that Assigned Mission.

Core METL

MCT 1.3.3.3.2 Conduct Aviation Operations From Expeditionary Shore-Based Sites
MCT 1.3.4.1 Conduct Combat Assault Transport
MCT 4.3.4 Conduct Air Delivery
MCT 6.2.1.1 Conduct Aviation Support of Tactical Recovery of Aircraft and Personnel (TRAP)
MCT 6.2.2 Conduct Air Evacuation

Core Plus METs

MCT 1.3.4.1.1 Conduct Airborne Rapid Insertion/Extraction
MCT 1.3.4.2.1 Provide Aviation-Delivered Ground Refueling
MCT 1.3.3.3.1 Conduct Aviation Operations From Expeditionary Sea-Based Sites

2. CH-53E MET Output Standards. The required level of performance an HMH Squadron/Squadron (-)/Detachment/Reserve Squadron must be capable of sustaining during contingency/combat operations by MET to be considered MET-ready. Output standards will be demonstrated through the incorporation of unit training events. A core capable CH-53E unit is able to sustain the number of sorties listed below on a daily basis during contingency/combat operations. The sortie rates are based on 1.5 hour average sortie duration and assumes $\geq$ 70 percent FMC aircraft and $\geq$ 90 percent T/O aircrew on hand. If unit FMC aircraft < 70 percent or T/O aircrew < 90 percent, core capability will be degraded by a like percentage. A core capable unit is able to accomplish all tasks designated in the unit METL from a main base, expeditionary base, or amphibious platforms.

MET Output Standards CH-53E Squadron/Squadron (-)/Detachment/Reserve Squadron (16/12/4/8) Aircraft			
MCT	MET	OUTPUT STANDARD	
		MAXIMUM DAILY SORTIES*	MAXIMUM MCT SORTIES
MCT 1.3.3.3.2 EXP	Conduct Aviation Operations From Expeditionary Shore-Based Sites	27/21/7/14	27/21/7/10
MCT 1.3.4.1 AT	Conduct Combat Assault Transport		27/21/7/10
MCT 4.3.4 AD	Conduct Air Delivery		27/21/7/10
MCT 6.2.1.1 TRAP	Conduct Aviation Support of Tactical Recovery of Aircraft and Personnel (TRAP)		27/21/7/10
MCT 6.2.2 AE	Conduct Air Evacuation		27/21/7/10
Core Plus MET Output Standards			
MCT	MET	OUTPUT STANDARD	
		MAXIMUM DAILY SORTIES*	MAXIMUM MCT SORTIES
MCT 1.3.4.1.1 RAID	Conduct Airborne Rapid Insertion/Extraction	14/10/3/5	14/10/2/2
MCT 1.3.4.2.1 ADGR	Provide Aviation-Delivered Ground Refueling		4/2/2/2 points
MCT 1.3.3.3.1 SEA	Conduct Aviation Operations From Expeditionary Sea-Based Sites		14/10/2/2

*A 16/12/4/8 plane Mission Capable HMH Squadron / Squadron(-)/ Detachment/ Reserve Squadron is able to execute 27/21/7/14 total overall sorties on a daily (24 hour period) basis during contingency/combat operations.

105. CH-53E MET TO CORE/MISSION/CORE PLUS/MISSION PLUS SKILL MATRIX. This matrix provides a pictorial view of the relationship between the unit Mission Essential Task (MET) and each Core/Mission/Core Plus/Mission Plus Skill required to perform the MET. Shading indicates a Core Plus MET and corresponding Core Plus/Mission Plus Skill.

CH-53E
MCT TO CORE/MISSION/CORE PLUS SKILL MATRIX

MARINE CORPS TASK (MCT) // MISSION ESSENTIAL TASK (MET)	CORE SKILLS (2000 PHASE)																MISSION SKILLS (3000 PHASE)					CORE PLUS (4000 PHASE) CORE PLUS SKILLS									MISSION PLUS SKILLS		
	FAM/INST	INT	FORM	CAL	TERF	EXT	HAAR	FCLP	AG	XMAG	GAUAG	AGC	GTR	TAC	NS HLL	NS LLL	EXP	AT	AD	TRAP	AE	HIE	TERF EXT	GTR	DM	CBRN	MTG	CQ	TG	TAC	RAID	ADGR	SEA
MCT 1.3.3.3.2 EXP	X	X	X	X		X								X	X	X	**X**									X				X			
MCT 1.3.4.1 AT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		**X**				X	X	X	X	X	X	X	X	X			
MCT 4.3.4 AD	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			**X**			X	X	X	X	X	X	X	X	X			
MCT 6.2.1.1 TRAP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				**X**		X	X	X	X	X	X	X	X	X			
MCT 6.2.2 AE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					**X**		X	X	X	X	X	X	X	X			
CORE PLUS																																	
MCT 1.3.4.1.1 RAID	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							X	X	X	X	X	X	X	X	**X**		
MCT 1.3.4.2.1 ADGR	X	X	X	X										X	X	X										X				X		**X**	
MCT 1.3.3.3.1 SEA	X	X	X	X				X						X	X	X										X		X		X			**X**

106. CH-53E CORE MODEL MINIMUM REQUIREMENT (CMMR) SKILLS PROFICIENCY REQUIREMENTS. The CMMR is the optimum number of aircrew to execute each stage of flight as detailed below. The numbers associated with each crew position column reflect the number of proficient aircrew required.

CH-53E SQUADRON/SQUADRON (-)/DETACHMENT/RESERVE SQUADRON (16/12/4/8 Aircraft) CMMR			
CORE SKILLS (2000 PHASE)			
CORE SKILL	**PILOTS**	**CREW CHIEFS**	**AO/G**
FAM/INST	24/16/8/12	N/A	N/A
INT	N/A	12/8/4/6	12/8/4/6
FORM	24/16/8/12	12/8/4/6	12/8/4/6
CAL	24/16/8/12	12/8/4/6	12/8/4/6
TERF	24/16/8/12	12/8/4/6	12/8/4/6
EXT	24/16/8/12	12/8/4/6	12/8/4/6
HAAR	16/12/4/8	N/A	N/A
FCLP	16/12/8/12	8/6/4/6	8/6/4/6
AG	16/12/4/6	N/A	
XMAG	N/A	8/6/2/3	8/6/2/3
GAUAG	N/A		
AGC	N/A		
GTR	24/16/8/12	12/8/4/6	N/A//N/A//4//6
TAC	16/12/4/6	8/6/2/3	8/6/2/3
NS HLL	24/16/8/12	12/8/4/6	12/8/4/6
NS LLL	16/12/4/6	8/6/2/3	8/6/2/3
MISSION SKILLS (3000 PHASE)			
MISSION SKILL	**PILOTS**	**CREW CHIEFS**	**AO/G**
EXP	16/12/4/6	8/6/2/3	8/6/2/3
AT	16/12/4/6	8/6/2/3	8/6/2/3
AD	16/12/4/6	8/6/2/3	8/6/2/3
TRAP	16/12/4/6	8/6/2/3	8/6/2/3
AE	16/12/4/6	8/6/2/3	8/6/2/3
CORE PLUS (4000 PHASE)			
CORE+ SKILL	**PILOTS**	**CREW CHIEFS**	**AO/G**
HIE	8/4/4/4	4/2/2/2	4/2/2/2
TERF EXT	10/8/4/4	5/4/2/2	5/4/2/2
GTR	10/8/4/4	5/4/2/2	5/4/2/2
DM	10/8/4/4	5/4/2/2	5/4/2/2
CBRN	10/8/4/4	5/4/2/2	5/4/2/2
MTG	N/A	3/1/1/2	3/1/1/2
CQ	10/8/4	5/4/2/2	5/4/2/2
TG	N/A	4/3/1/2	4/3/1/2
TAC	10/8/4/4	5/4/2/2	5/4/2/2
MISSION PLUS (4000 PHASE)			
MISSION+ SKILL	**PILOTS**	**CREW CHIEFS**	**AO/G**
RAID	8/6/4/4	4/3/2/2	4/3/2/2
ADGR	8/6/4/4	4/3/2/2	4/3/2/2
SEA	8/6/4/4	4/3/2/2	4/3/2/2

* A standard CH-53E crew consists of two pilots, one crew chief, and one AG/O. At the squadron commanding officer's discretion and mission dependent, a standard CH-53E crew may consist of two pilots, one crew chief, one AG/O, and one tail gunner. For clarification, a squadron shall train 8 tail gunners to satisfy the Core Plus Skill requirements identified; however, those 8 tail gunners are not additional crewmen manning the tail gun. Rather, those 8 tail gunners may be a combination of crew chiefs and AG/Os who are Tail Gunnery Qualified (TGQ). The additional crewman required for the manning of the tail gun for missions is at the discretion of the commanding officer.

107. CH-53E READINESS REPORTING. The paragraphs and tables below delineate the minimum aircrew qualifications and designations required to contribute to

unit readiness. Chapter 7 of the Aviation T&R Program Manual provides additional guidance and a detailed description of readiness reporting using the Defense Readiness Reporting System – Marine Corps (DRRS-MC) and the Current Readiness program.

1. Combat Leadership requirements for readiness reporting are per paragraph 109.1.

2. Crew requirements for specific missions may be balanced by the experience level of the crew and are at the discretion of the commanding officer. For readiness reporting purposes, the table delineates the minimum crew definition qualifications and designations as well as the number of crews required per MET. Designated instructors may be used to offset specific training deficits when forming crews for readiness reporting. The number of crews formed, using the below minimum standards per crew, capture the readiness capability of a squadron to perform the MET sortie under all light levels and will be compared to the CMMR requirement for crews when reporting readiness.

CH-53E MINIMUM CREW QUALIFICATIONS / DESIGNATIONS REQUIRED FOR MET CAPABILITY								
CREW POSITION					**FORMED CREWS REQUIRED PER MET (CREW CMMR)**			
CORE METS								
MCT	PILOT	COPILOT	CC	CC/AO*	**SQD**	**SQD(-)**	**DET**	**RES**
1.3.3.3.2 **(EXP)**	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	8	6	2	4
1.3.4.1 **(AT)**	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	8	6	2	4
4.3.4 **(AD)**	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	8	6	2	4
6.2.1.1 **(TRAP)**	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	8	6	2	4
6.2.2 **(AE)**	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	8	6	2	4
CORE PLUS METS					**SQD**	**SQD(-)**	**DET**	**RES**
1.3.4.1.1 **(RAID)**	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	4	3	2	2
1.3.4.2.1 **(ADGR)**	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	4	3	2	2
1.3.3.3.1 **(SEA)**	MSP, HAC	NSQ(LLL), CQ	MSP	NSQ(LLL),CQ	4	3	2	2

* A non-MSP CC may serve in the capacity of an AO as long as the CC is NSQ(LLL).

108. CH-53E INSTRUCTOR REQUIREMENTS. An HMH (CH-53E) unit should possess the following number of personnel with the instructor designations listed in the matrix.

CH-53E SQUADRON/SQUADRON (-)/DETACHMENT/RESERVE SQUADRON (16/12/4/8 Aircraft) INSTRUCTOR DESIGNATIONS (5000 PHASE)			
DESIGNATIONS	**PILOTS**	**CREW CHIEFS**	**AO/AG**
TERFI	8/4/2/4	8/3/2/3	N/A
DMI	4/2/1/2	4/2/1/2	N/A
NSI	6/4/1/3	6/4/1/3	N/A
WTI	3/2/1/2	3/2/1/2	
ARI	6/3/1/3	N/A	
AGI	N/A	6/3/1/3**	
TGI	N/A	2/1/1/1**	
BIP	16/12/4/8	N/A	
NI	1/1/1/1	1/1/1/1	N/A
ANI	3/1/0/1	3/1/0/1	N/A
II	4/2/1/2	N/A	
FLSE*	2/1/1/1	N/A	
*FLSEs are Designated by the Group CO **AO/AG designated as AGIs and TGIs may be used to fulfill this requirement			

HMH FRS (16 Aircraft) INSTRUCTOR DESIGNATIONS (5000 PHASE)			
DESIGNATIONS	**PILOTS**	**CREW CHIEFS**	**AO/AG**
FRSI - E	21	N/A	
TERFI	21	12	
DMI	0	0	
NSI	2	6	
NSFI***	8	4	
WTI	1	2	
ARI	0	N/A	
AGI	N/A	8**	
TGI	N/A	2**	
BIP	21	N/A	
NI	1	1	
ANI	2	1	
II	3	N/A	
FLSE*	2	N/A	
*FLSEs are Designated by the Group CO **AO/AG designated as AGIs and TGIs may be used to fulfill this requirement *** NSIs may be used to fulfill NSFI requirement			

109. CH-53E QUALIFICATIONS AND DESIGNATIONS

1. CMMR Combat Leadership Requirements. At a minimum, in order to be considered Core Competent, a HMH unit must possess the following number of listed combat leadership designations.

CH-53E SQUADRON/SQUADRON (-)/DETACHMENT/RESERVE SQUADRON (16/12/4/8 Aircraft) CMMR COMBAT/FLIGHT LEADERSHIP (6000 PHASE)	
DESIGNATIONS	**PILOTS**
HAC	16/12/4/6
SECTION LEADER	9/6/3/3
DIVISION LEADER	6/4/2/2
FLIGHT LEADER	4/3/2/2
MISSION COMMANDER	3/2/1/1

2. Qualifications and Designations

CH-53E SQUADRON/SQUADRON (-)/DETACHMENT/RESERVE SQUADRON (16/12/4/8 Aircraft) CMMR DESIGNATIONS (6000 PHASE)	
DESIGNATIONS	**PILOTS**
FCP	7/5/3/4

3. FRS Qualifications and Designations

CH-53E FRS (17 Aircraft) FLIGHT LEADERSHIP (6000 PHASE)	
DESIGNATIONS	**PILOTS**
HAC	21
SECTION LEADER	21
DIVISION LEADER	4
FLIGHT LEADER	2
MISSION COMMANDER	0
FCP	12

110. CH-53E TRAINING RESOURCE REQUIREMENTS. The training resource requirements section captures those training resources required to support CH-53 T&R events, by stage. Additionally, Pilot Training Officers can use this section as a reference for coordination required, by stage, to execute T&R events. The items listed are those resources not resident in an HMH T/O&E but are required to make Core Competent Crews. The training resource

requirements section (like the T&R itself) does not take geographic location(s) of a unit into account, rather what is required to effectively train CH-53 combat ready crews. Any training resource not available should be annotated and forwarded to TECOM, Aviation Training Division as a training resource shortfall.

1. FAM/INST Stage

a. Airport facilities that support helicopter day and night operations.

b. Facilities should include at a minimum but are not limited to; runway with a minimum of 3000 ft, helicopter specific practice hover area, practice autorotation course rules/lane, practice pattern work course rules for all FAM maneuvers, instrument facilities to include SIDs, holding, non precision TACAN, VOR and ASR instrument approaches available for actual and practice use, precision ILS and PAR instrument approaches available for actual and practice use.

2. FORM Stage. Special use airspace/training area available day and night for Tactical Formation maneuvering.

3. CAL Stage. Confined area and/or mountain area training area with landing zones capable of supporting CH-53 single ship, section and division landings both day and night.

4. TERF Stage

a. Special use airspace/training area capable of supporting CH-53 low level and contour flight operations below 200ft both day and night.

b. Airspace shall include TERF routes with a minimum of 50nm and 6 checkpoints.

c. TERF area shall have confined area and/or mountain area landing zones capable of supporting CH-53 division landings and external operations.

5. EXT Stage

a. Special use airspace/training area capable of supporting CH-53 external, low level and contour flight operations below 200ft both day and night. Airspace shall include TERF routes with a minimum of 50nm and 6 checkpoints.

b. TERF area shall have confined area and/or mountain area landing zones capable of supporting CH-53 division landings and external operations.

c. 8 external loads, 4 SP, 4 DP. Loads should vary in size from 2,000lbs to 36,000lbs.

d. HST to support external operations for a minimum 8 hours per week.

6. GTR Stage

a. Special use EW range/airspace/training area capable of supporting CH-53 low level and contour flight operations below 200ft both day and night.

b. Airspace shall include TERF routes with a minimum of 50nm and 6 checkpoints. TERF area shall have confined area and/or mountain area landing zones capable of supporting CH-53 division landings and external operations. Flare and chaff capable range available both day and night.

c. Ground based non radar threat simulator (smokey sams, AAR-47 simulator, pyrotechnics) available 4 times per month for a minimum of 12 hours total.

d. Radar emitter with threat systems to include electromagnetic and ground based threat simulation. Emitter should be search, acquisition, and track capable. Emitter should be able to provide radar resolution cell feedback to aircrew.

7. HAAR Stage

a. KC-130 support for a minimum 4 hours a week.

b. Special use airspace capable of conducting HAAR.

8. CQ/MISSION Stage. LHD/LHA shipping available a minimum 8 hours per month for both day and night Carrier Qualification operations.

9. TAC/MISSION Stage

a. Special use airspace/training area capable of supporting CH-53 low level and contour flight operations below 200ft both day and night. Airspace shall include TERF routes with a minimum of 50nm and 6 checkpoints.

b. TERF area shall have confined area and/or mountain area landing zones capable of supporting CH-53 division landings and external operations.

c. Expendable capable range.

d. Ground based non radar threat simulator (smokey sams, AAR-47 simulator, pyrotechnics) available a minimum of 4 times per month. Aerial gunnery laser safe range with SDZ approved for .50 CAL for day and night shooting. Targets should range in size from personnel targets to APC size targets.

e. KC-130 support for a minimum of 8 hours a week.

f. Special use airspace capable of conducting AR.

10. AG Stage. Aerial gunnery laser safe range with SDZ approved for .50 CAL for day and night shooting. Targets should range in size from personnel targets to APC size targets.

11. HIE Stage. Supporting units available to conduct para ops, helocast, fast rope, rappelling, and SPIE.

12. DM Stage

a. Special use airspace/training area capable of supporting CH-53 Low level and contour flight operations below 200ft.

b. Expendable capable range.

c. Tactical fixed wing aircraft adversary available a minimum of 6 times per year for a minimum of 12 hours.

d. Tactical utility or attack helicopter adversary available a minimum of 6 time per year for a minimum of 12 hours.

CH-53D

111. CH-53D TRAINING AND READINESS REQUIREMENTS. The goal of Marine Aviation is to attain and maintain combat readiness to support Expeditionary Maneuver Warfare while conserving resources. The standards established in this program are validated by subject matter experts to maximize combat capabilities for assigned Mission Essential Tasks (METs). These standards describe and define unit capabilities and requirements necessary to maintain proficiency in mission skills and combat leadership. Training events are based on specific requirements and performance standards to ensure a common base of training and depth of combat capability.

112. CH-53D MISSION. Support the MAGTF Commander by providing assault support transport of equipment, combat troops, and supplies, day or night under all weather conditions during expeditionary, joint, or combined operations.

113. CH-53D TABLE OF ORGANIZATION (T/O). Refer to Table of Organization (T/O) 8960 managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for CH-53D units. As of this publication date, CH-53D units are authorized:

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27 Pilots
22 Crew Chiefs
16 Aerial Observers/Aerial Gunners

MAG-24 Stan DET
3 Pilots
3 Crew Chiefs
0 Aerial Observers/Aerial Gunners

114. CH-53D SKILL ABBREVIATIONS. Shading indicates Core Plus/Mission Plus Skills.

CORE SKILLS	
FAM/INST	Familiarization / Instrument
INT	Internal Loading
FORM	Formation
CAL	Confined Area Landing
TERF	Terrain Flight
EXT	External Operations
FCLP	Field Carrier Landing Practice
AG	Aerial Gunnery
XMAG	XM-218 Aerial Gunnery
GAUAG	GAU-21 Aerial Gunnery
AGC	Aerial Gunnery Conversion XM-218 to GAU-21
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GTR	Ground Threat Reaction
DM	Defensive Measures
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MTG	Moving Target Gunnery
TG	Tail Gunnery
CQ	Carrier Qualification
TAC	Tactics
MISSION PLUS SKILLS	
RAID	Raid Insertion/Extraction
ADGR	Aviation-Delivered Ground Refueling
SEA	Expeditionary Operations Sea Based

115. CH-53D MISSION ESSENTIAL TASK LIST (METL)

1. Core METL. A list of specified tasks a HMH squadron is designed to perform. Core METs, standardized by type unit, are drawn from the Marine Corps Task List (MCTL) and are used for unit readiness. Core Plus METs are additional METs that are theater specific and/or have a low likelihood of occurrence. Core Plus METs may be included in readiness reporting when contained within an Assigned Mission METL. An Assigned Mission METL consists of only the selected MCTs (drawn from Core and Core Plus METs) necessary for that Assigned Mission.

Core METL

MCT 1.3.3.3.2	Conduct Aviation Operations From Expeditionary Shore-Based Sites
MCT 1.3.4.1	Conduct Combat Assault Transport
MCT 4.3.4	Conduct Air Delivery
MCT 6.2.1.1	Conduct Aviation Support of Tactical Recovery of Aircraft and Personnel (TRAP)
MCT 6.2.2	Conduct Air Evacuation

Core Plus METs

MCT 1.3.4.1.1	Conduct Airborne Rapid Insertion/Extraction
MCT 1.3.4.2.1	Provide Aviation-Delivered Ground Refueling

MCT 1.3.3.3.1 Conduct Aviation Operations From Expeditionary Sea-Based Sites

2. MET Output Standards. The required level of performance a HMH Squadron must be capable of sustaining during contingency/combat operations by MET to be considered MET-ready. Output standards will be demonstrated through the incorporation of unit training events. A core capable CH-53D unit is able to sustain the sorties listed below on a daily basis during contingency/combat operations. The sortie rates are based on 1.5 hour average sortie duration and assumes > 70 percent FMC aircraft and > 90 percent T/O aircrew on hand. If unit FMC aircraft < 70 percent or T/O aircrew < 90 percent, core capability will be degraded by a like percentage. A core capable unit is able to accomplish all tasks designated in the unit METL from a main base, expeditionary base, or an amphibious platform.

MET Output Standards CH-53D Squadron (10 Aircraft)			
MCT	**MET**	**OUTPUT STANDARD**	
		MAXIMUM DAILY SORTIES*	**MAXIMUM MCT SORTIES**
MCT 1.3.3.3.2 **EXP**	Conduct Aviation Operations From Expeditionary Shore-Based Sites	17	17
MCT 1.3.4.1 **AT**	Conduct Combat Assault Transport		17
MCT 4.3.4 **AD**	Conduct Air Delivery		17
MCT 6.2.1.1 **TRAP**	Conduct Aviation Support of Tactical Recovery of Aircraft and Personnel (TRAP)		17
MCT 6.2.2 **AE**	Conduct Air Evacuation		17
Core Plus MET Output Standards			
MCT	**MET**	**OUTPUT STANDARD**	
		MAXIMUM DAILY SORTIES*	**MAXIMUM MCT SORTIES**
MCT 1.3.4.1.1 **RAID**	Conduct Airborne Rapid Insertion/Extraction	8	8
MCT 1.3.4.2.1 **ADGR**	Provide Aviation-Delivered Ground Refueling		2 points
MCT 1.3.3.3.1 **SEA**	Conduct Aviation Operations From Expeditionary Sea-Based Sites		8

* A 10 plane Mission Capable HMH (CH-53D) squadron is able to execute 17 total overall sorties on a daily (24 hour period) basis during contingency/combat operations.

116. CH-53D MET TO CORE/MISSION/CORE PLUS/MISSION PLUS SKILL MATRIX
Provides a pictorial view of the relationship between the unit Mission Essential Task (MET) and each Core/Mission/Core Plus Skill required to perform the MET. Shading indicates a Core Plus MET and corresponding Core Plus/Mission Plus Skills.

CH-53D
MCT TO CORE/MISSION/CORE PLUS SKILL MATRIX

MARINE CORPS TASK (MCT) / MISSION ESSENTIAL TASK (MET)	CORE SKILLS (2000 PHASE)															MISSION SKILLS (3000 PHASE)					CORE PLUS (4000 PHASE)												
																					CORE PLUS SKILLS									MISSION PLUS SKILLS		
	FAM/INST	INT	FORM	CAL	TERF	EXT	FCLP	AG	XMAG	GAUAG	AGC	GTR	TAC	NS HLL	NS LLL	EXP	AT	AD	TRAP	AE	HIE	TERF EXT	GTR	DM	CBRN	MTG	CQ	TG	TAC	RAID	ADGR	SEA
MCT 1.3.3.3.2 **EXP**	X	X	X	X		X							X	X	X	**X**							X		X				X			
MCT 1.3.4.1 **AT**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		**X**				X	X	X	X	X	X	X	X	X			
MCT 4.3.4 **AD**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			**X**			X	X	X	X	X	X	X	X	X			
MCT 6.2.1.1 **TRAP**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				**X**		X	X	X	X	X	X	X	X	X			
MCT 6.2.2 **AE**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					**X**		X	X	X	X	X	X	X	X			
CORE PLUS																																
MCT 1.3.4.1.1 **RAID**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							X	X	X	X	X	X	X	X	**X**		
MCT 1.3.4.2.1 **ADGR**	X	X	X	X									X	X	X								X		X				X		**X**	
MCT 1.3.3.3.1 **SEA**	X	X	X	X			X						X	X	X								X		X		X		X			**X**

117. CH-53D CORE MODEL MINIMUM REQUIREMENT (CMMR) SKILLS PROFICIENCY REQUIREMENTS. The CMMR is the optimum number of aircrew to execute each stage of flight as detailed below. The numbers associated with each crew position column reflect the number of proficient individuals required.

CH-53D SQUADRON (10 Aircraft) CMMR				
CORE SKILLS (2000 PHASE)				
CORE SKILL	**PILOTS**	**CREW CHIEFS**	**AO/G**	**TG***
FAM / INST	16	N/A	N/A	N/A
INT	N/A	10	10	N/A
FORM	16	8	8	N/A
CAL	16	8	8	N/A
TERF	16	8	8	N/A
EXT	16	8	8	N/A
GTR	16	8	8	N/A
FCLP	12	6	6	N/A
AG	12	N/A		N/A
XMAG	N/A	6		6
GAUAG	N/A			
AGC	N/A			
TAC	12	6	6	N/A
NS HLL	16	8	8	N/A
NS LLL	12	6	6	N/A
MISSION SKILLS (3000 PHASE)				
MISSION SKILL	**PILOTS**	**CREW CHIEFS**	**AO/G**	**TG***
EXP	12	6	6	6
AT	12	6	6	6
AD	12	6	6	6
TRAP	12	6	6	6
AE	12	6	6	6
CORE PLUS (4000 PHASE)				
CORE PLUS SKILL	**PILOTS**	**CREW CHIEFS**	**AO/G**	**TG***
HIE	8	4	4	N/A
TERF EXT	8	4	4	N/A
GTR	8	4	4	N/A
DM	8	4	4	N/A
CBRN	8	4	4	N/A
MTG	N/A	6		6
CQ	8	4	4	N/A
TG	N/A	N/A	N/A	6
TAC	8	4	4	N/A
MISSION PLUS	**PILOTS**	**CREW CHIEFS**	**AO/G**	**TG***
RAID	6	3	3	3
ADGR	6	3	3	3
SEA	6	3	3	3

* A standard CH-53D crew consists of two pilots, one crew chief, and one AG/O. At the squadron commanding officer's discretion and mission dependent, a standard CH-53D crew may consist of two pilots, one crew chief, one AG/O, and one tail gunner. For clarification, a squadron shall train 6 tail gunners to satisfy the Core Skill requirements identified; however, those 6 tail gunners are not additional crewmen manning the tail gun. Rather, those 6 tail gunners may be a combination of crew chiefs and AG/Os who are Tail Gunnery Qualified (TGQ). The additional crewman required for the manning of the tail gun for missions is at the discretion of the commanding officer.

118. CH-53D READINESS REPORTING. The paragraphs and tables below delineate the minimum aircrew qualifications and designations required to contribute to unit readiness. Chapter 7 of the Aviation T&R Program Manual provides additional guidance and a detailed description of readiness reporting using the Defense Readiness Reporting System – Marine Corps (DRRS-MC) and the Current Readiness program.

1. Combat Leadership requirements for readiness reporting are per paragraph 120.1.

2. Crew requirements for specific missions may be balanced by the experience level of the crew and are at the discretion of the commanding officer. For readiness reporting purposes, the table delineates the minimum crew definition qualifications and designations as well as the number of crews required per MET. Designated instructors may be used to offset specific training deficits when forming crews for readiness reporting. The number of crews formed, using the below minimum standards per crew, capture the readiness capability of a squadron to perform the MET sortie under all light levels and will be compared to the CMMR requirement for crews when reporting readiness.

CH-53D MINIMUM CREW QUALIFICATIONS / DESIGNATIONS REQUIRED FOR MET CAPABILITY					
CORE METS	**CREW POSITION**				**FORMED CREWS REQUIRED PER MET (CREW CMMR)**
MCT	PILOT	COPILOT	CC	CC/AO*	**SQD**
1.3.3.3.2 (EXP)	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	6
1.3.4.1 (AT)	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	6
4.3.4 (AD)	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	6
6.2.1.1 (TRAP)	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	6
6.2.2 (AE)	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	6
CORE PLUS METS					**SQD**
1.3.4.1.1 (RAID)	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	3
1.3.4.2.1 (ADGR)	MSP, HAC	NSQ(LLL)	MSP	NSQ(LLL)	3
1.3.3.3.1 (SEA)	MSP, HAC	NSQ(LLL), CQ	MSP	NSQ(LLL) CQ	3

* A non-MSP CC may serve in the capacity of an AO as long as the CC is NSQ(LLL).

119. CH-53D INSTRUCTOR REQUIREMENTS. A HMH CH-53D squadron should possess the following numbers of personnel with the instructor designations listed in the matrix.

CH-53D SQUADRON INSTRUCTOR DESIGNATIONS (5000 PHASE)			
DESIGNATIONS	**PILOTS**	**CREW CHIEFS**	**AO / AG**
TERFI	5	4	
DMI	3	3	
NSI	3	3	
WTI	2	2	
II	2	2	
AGI	N/A	3**	
TGI	N/A	2**	
BIP	10		
NI	1	1	
ANI	1	1	
FLSE*	2	N/A	
*FLSEs are designated by the Group CO			

**AO/AG designated as AGIs & TGIs may be used to fulfill this requirement			
CH-53D MAG-24 Standardization Detachment INSTRUCTOR DESIGNATIONS (5000 PHASE)			
DESIGNATIONS	**PILOTS**	**CREW CHIEFS**	**AO / AG**
TERFI	3	3	
DMI	0	0	
NSI	3	3	
WTI	0	1	
AGI	N/A	2**	
TGI	N/A	0	
BIP	3	N/A	
NI/ANI	3	3	
NII/ANII	3	N/A	
FRSI D	3	3	
FLSE*	1	N/A	
*FLSEs are designated by the Group CO **AO/AG designated as AGIs may be used to fulfill this requirement			

120. CH-53D QUALIFICATIONS AND DESIGNATIONS

1. CMMR Combat Leadership Requirements. At a minimum, in order to be considered Core Competent, a HMH (CH-53D) squadron/MAG-24 Stan Det must possess the following number of listed combat leadership designations.

CH-53D Squadron / MAG-24 Standardization Detachment FLIGHT LEADERSHIP (6000 PHASE)	
DESIGNATION	**PILOTS**
HAC	10/3
SECTION LEADER	8/3
DIVISION LEADER	4/2
FLIGHT LEADER	3/0
MISSION COMMANDER	2/0

2. Qualifications and Designations

CH-53D SQUADRON / MAG-24 Stan Det QUALIFICATION (6000 PHASE)	
QUALIFICATION	**PILOTS**
FCP	6/2

121. CH-53D TRAINING RESOURCE REQUIREMENTS. The training resource requirements section captures those training resources required to support CH-53 T&R events, by stage. Additionally, Pilot Training Officers can use this section as a reference for coordination required, by stage, to execute T&R events. The items listed are those resources not resident in an HMH T/O&E but are required to make Core Competent Crews. The training resource requirements section(like the T&R itself) does not take geographic location(s) of a unit into account, rather what is required to effectively train CH-53 combat ready crews. Any training resource not available should be annotated and forwarded to TECOM, Aviation Training Division as a training resource shortfall.

1. FAM/INST Stage

a. Airport facilities that support helicopter day and night operations.

b. Facilities should include at a minimum but are not limited to; runway with a minimum of 3000 ft, helicopter specific practice hover area, practice autorotation course rules/lane, practice pattern work course rules for all FAM maneuvers, instrument facilities to include SIDs, holding, non precision TACAN, VOR and ASR instrument approaches available for actual and practice use, and PAR instrument approaches available for actual and practice use.

2. FORM Stage. Special use airspace/training area available day and night for Tactical Formation maneuvering.

3. CAL Stage. Confined area and/or mountain area training area with landing zones capable of supporting CH-53 single ship, section and division landings both day and night.

4. TERF Stage

a. Special use airspace/training area capable of supporting CH-53 low level and contour flight operations below 200ft both day and night.

b. Airspace shall include TERF routes with a minimum of 50nm and 6 checkpoints.

c. TERF area shall have confined area and/or mountain area landing zones capable of supporting CH-53 division landings and external operations.

5. EXT Stage

a. Special use airspace/training area capable of supporting CH-53 external, low level, and contour flight operations below 200ft both day and night. Airspace shall include TERF routes with a minimum of 50nm and 6 checkpoints.

b. TERF area shall have confined area and/or mountain area landing zones capable of supporting CH-53 division landings and external operations.

c. 4 external loads that vary in size from 2,000lbs to 20,000lbs.

d. HST to support external operations for a minimum of 8 hours per week.

6. GTR Stage

a. Special use EW range/airspace/training area capable of supporting CH-53 low level and contour flight operations below 200ft both day and night.

b. Airspace shall include TERF routes with a minimum of 50nm and 6 checkpoints. TERF area shall have confined area and/or mountain area landing zones capable of supporting CH-53 division landings and external operations. Flare and chaff capable range available both day and night.

c. Ground based non radar threat simulator (smokey sams, AAR-47 simulator, pyrotechnics) available a minimum of 4 times per month for a minimum of 12 hours total.

d. Radar emitter with threat systems to include electromagnetic and ground based threat simulation. Emitter should be search, acquisition, and track capable. Emitter should be able to provide radar resolution cell feedback to aircrew.

7. CQ/MISSION Stage. LHD/LHA shipping available a minimum of 8 hours per month for both day and night Carrier Qualification operations.

8. TAC/MISSION Stage

a. Special use airspace/training area capable of supporting CH-53 low level and contour flight operations below 200ft both day and night. Airspace shall include TERF routes with a minimum of 50nm and 6 checkpoints.

b. TERF area shall have confined area and/or mountain area landing zones capable of supporting CH-53 division landings and external operations.

c. Expendable capable range.

d. Ground based non radar threat simulator (smokey sams, AAR-47 simulator, pyrotechnics) available 4 times per month. Aerial gunnery laser safe range with SDZ approved for .50 CAL for day and night shooting. Targets should range in size from personnel targets to APC size targets.

e. KC-130 support for a minimum of 8 hours a week for RGR.

9. AG Stage. Aerial gunnery laser safe range with SDZ approved for .50 CAL for day and night shooting. Targets should range in size from personnel targets to APC size targets.

10. HIE Stage. Supporting units available to conduct para ops, helocast, fast rope, rappelling, and SPIE.

11. DM Stage

a. Special use airspace/training area capable of supporting CH-53 Low level and contour flight operations below 200ft.

b. Expendable capable range.

c. Tactical fixed wing aircraft adversary available a minimum of 6 times per year for a minimum of 12 hours.

d. Tactical utility or attack helicopter adversary available a minimum of 6 times per year for a minimum of 12 hours.

CHAPTER 2

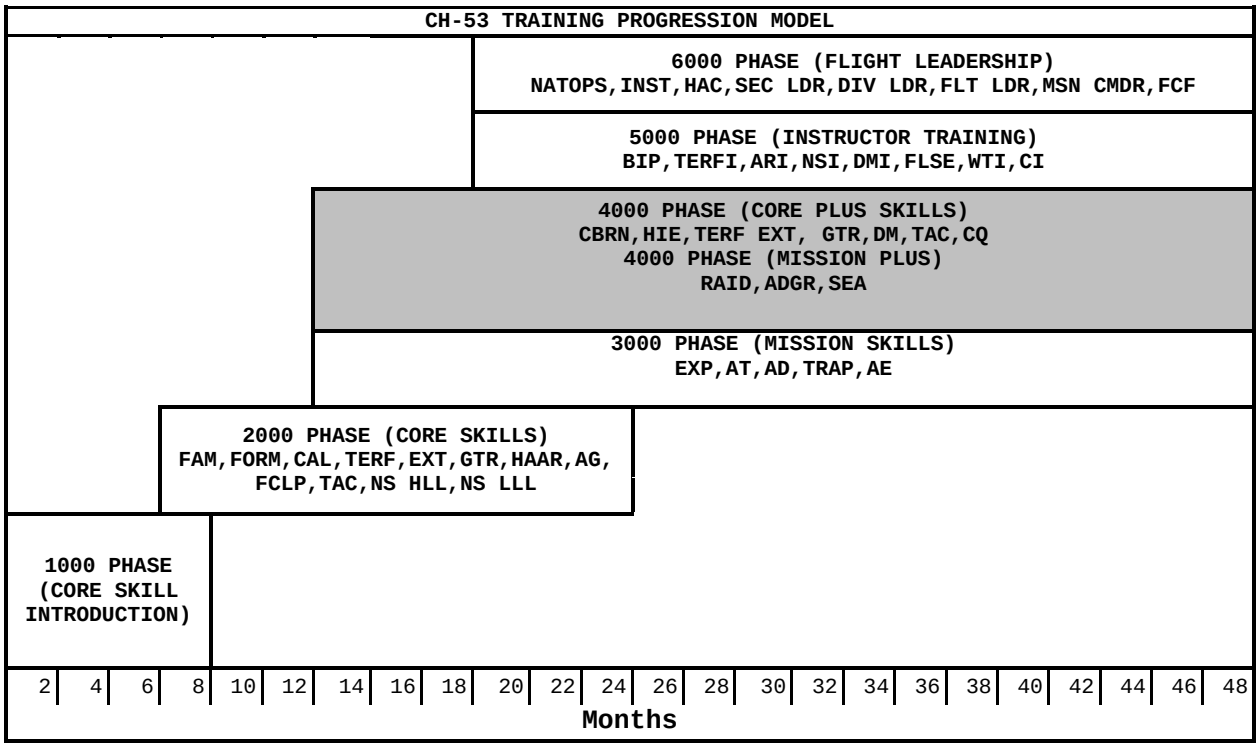
CH-53 PILOT (MOS 7566/7564)

CHAPTER 2

CH-53 PILOT 7566/7564

200. PILOT 7566 AND 7564 INDIVIDUAL TRAINING AND READINESS REQUIREMENTS. This T&R Syllabus is based on specific goals and performance standards designed to ensure individual proficiency in Core and Mission Skills. The goal of this chapter is to develop individual and unit war fighting capabilities.

201. 7564/7566 TRAINING PROGRESSION MODEL. This model represents the recommended training progression for the average 7566/7564 crewmember. Units should use the model as a point of departure to generate individual training plans.



202. INDIVIDUAL CORE SKILL PROFICIENCY (CSP) REQUIREMENTS. A CSP crew consists of individuals representing each crew position who have achieved and currently maintain Individual CSP. In order to be considered proficient in a Core Skill, an individual must attain and maintain proficiency in Core Skill events as delineated in the below paragraphs.

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 2000 T&R events listed for that Core Skill:

INDIVIDUAL CORE SKILL PROFICIENCY (CSP) ATTAIN TABLE CH-53E Pilot											
T&R events required to Attain CSP (2000 Phase)											
FAM/ INST	FORM	CAL	TERF	EXT	GTR	HAAR	FCLP	AG	TAC	NS HLL	NS LLL
S2100R S2101 2105R	2110R	2210R 2211R	2310 2311R	S2400 2410 2411R 2420 2421R 2430R 2441R	S2500 2540R	S2600 S2601 2610 2611R 2640R	S2700 2710R 2742R	2810 2840R	2910 2911R	S2102R 2120R 2220 2221R 2320 2321R 2920R	2230 2231R 2330 2331R 2930R
Gray highlight & an R suffix on the event code = Refresher POI											
An S prefix and blue font on the event code = Event conducted in a simulator (Preferred)											

INDIVIDUAL CORE SKILL PROFICIENCY (CSP) ATTAIN TABLE CH-53D Pilot										
T&R events required to Attain CSP (2000 Phase)										
FAM/ INST	FORM	CAL	TERF	EXT	GTR	FCLP	AG	TAC	NS HLL	NS LLL
S2100R 2105R	2110R	2210R 2211R	2310 2311R	S2400 2410R 2420R 2430R 2441R	S2500 2540R	S2700 2710R 2742R	2810 2840R	2910 2911R	2120R 2220 2221R 2320 2321R 2920R	2230 2231R 2330 2331R 2930R
Gray highlight & an R suffix on the event code = Refresher POI										
An S prefix and blue font on the event code = Event conducted in a simulator (Preferred)										

2. Events Required to Maintain Individual CSP. To maintain CSP in a Core Skill, an individual must maintain proficiency in all 2000 phase T&R events listed for that Core Skill:

INDIVIDUAL CORE SKILL PROFICIENCY (CSP) MAINTAIN TABLE CH-53E Pilot											
T&R events required to Maintain CSP (2000 Phase)											
FAM/ INST	FORM	CAL	TERF	EXT	GTR	HAAR	FCLP	AG	TAC	HS HLL	NS LLL
2105R	2110R	2211R	2311R	2430R 2441R	2540R	2640R	2742R	2840R	2911R	2221R 2321R 2920R	2231R 2331R 2930R
Gray highlight & an R suffix on the event code = Refresher POI											
An S prefix and blue font on the event code = Event conducted in a simulator (Preferred)											

INDIVIDUAL CORE SKILL PROFICIENCY (CSP) MAINTAIN TABLE CH-53D Pilot										
T&R events required to Maintain CSP (2000 Phase)										
FAM/ INST	FORM	CAL	TERF	EXT	GTR	FCLP	AG	TAC	NS HLL	NS LLL
2105R	2110R	2211R	2311R	2430R 2441R	2540R	2742R	2840R	2911R	2221R 2321R 2920R	2231R 2331R 2930R
Gray highlight & an R suffix on the event code = Refresher POI										
An S prefix and blue font on the event code = Event conducted in a simulator (Preferred)										

203. INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) REQUIREMENTS. A MSP Crew consists of individuals representing each crew position who have achieved and currently maintain Individual MSP. To be considered proficient in a Mission

Skill, an individual must attain and maintain proficiency in Mission Skills events as delineated in the below paragraphs.

1. Events Required to Attain Individual MSP. To initially attain MSP in a Mission Skill, an individual must simultaneously have a proficient status in all 3000 phase T&R events listed for that Mission Skill:

INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) ATTAIN TABLE CH-53D/E Pilot				
T&R events required to Attain MSP (3000 Phase)				
EXP	AT	AD	TRAP	AE
3140R	3240R	3340R	3440R	3540R
Gray highlight & an R suffix on the event code = Refresher POI				
An S prefix and blue font on the event code = Event conducted in a simulator (Preferred)				

2. Events Required to Maintain Individual MSP. To maintain MSP in a Mission Skill, an individual must maintain proficiency in all 3000 phase T&R events listed for that Mission Skill:

INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) MAINTAIN TABLE CH-53D/E Pilot				
T&R events required to Maintain MSP (3000 Phase)				
EXP	AT	AD	TRAP	AE
3140R	3240R	3340R	3440R	3540R
Gray highlight & an R suffix on the event code = Refresher POI				
An S prefix and blue font on the event code = Event conducted in a simulator (Preferred)				

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 T&R events listed for that Core Plus Skill:

INDIVIDUAL CORE PLUS PROFICIENCY ATTAIN TABLE CH-53D/E Pilot									
T&R events required to Attain Core Plus Proficiency (4000 Phase)									
CORE PLUS SKILLS							MISSION PLUS SKILLS		
HIE	TERF EXT	GTR	DM	CBRN	CQ	TAC	RAID	ADGR	SEA
4110R 4140 4141	S4412R S4440R	4540R	4510R 4511R	S4600	4711R 4743R	4940R 4941R 4942R	4980R	4981R	4982R
Gray highlight & an R suffix on the event code = Refresher POI									
An S prefix and blue font on the event code = Event conducted in a simulator (Preferred)									

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 T&R events listed in the table below for that Core Plus Skill:

INDIVIDUAL CORE PLUS PROFICIENCY MAINTAIN TABLE CH-53D/E Pilot									
T&R events required to Maintain Core Plus Proficiency (4000 Phase)									
CORE PLUS SKILLS							MISSION PLUS SKILLS		
HIE	TERF EXT	GTR	DM	CBRN	CQ	TAC	RAID	ADGR	SEA
4110R	S4440R	4540R	4510R 4511R		4743R	4940R 4941R 4942R	4980R	4981R	4982R
Gray highlight & an R suffix on the event code = Refresher POI									
An S prefix and blue font on the event code = Event conducted in a simulator (Preferred)									

204. REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS. The tables below delineate T&R events required to be completed to attain proficiency, and initial qualifications and designations. In addition to event requirements, all required stage lectures, briefs, squadron training, prerequisites, and other criteria shall be completed prior to completing the final events. Certification, qualification and designation letters signed by the commanding officer shall be placed in Individual Performance Records (IPR). Loss of proficiency in all qualification events caused the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.

INDIVIDUAL QUALIFICATION REQUIREMENTS for 7566	
Qualification	**Event Requirements**
NATOPS	6000, 6001, 6002, 6003, 6100, 6101 and IAW OPNAV 3710.7.
Instrument	6005, 6006, 6102 and IAW OPNAV 3710.7.
TERF	ACAD-2011, 2310 and 2311R
NSQ HLL	ACAD-2031, S2102,2120R,2220,2221R,2320,2321R,2920R
NSQ-LLL*	2420*,2421*R,NSQ HLL,2230,2231R,2330,2331R,2930R
DM	ACAD-2016 and ACAD-2021, 4001-4005, 4510R,4511R
*2420 and 2421 are prerequisites to start NSQ-LLL syllabus	
R and Gray highlight = Refresher POI events required for re-qualification	

INDIVIDUAL QUALIFICATION REQUIREMENTS for 7564	
Qualification	**Event Requirements**
NATOPS	6000, 6001, 6002, 6003, 6100, 6101 and IAW OPNAV 3710.7.
Instrument	6005, 6006, 6102 and IAW OPNAV 3710.7.
TERF	ACAD-2011, 2310 and 2311R
NSQ HLL*	ACAD-2031,2120R,2220,2221R,2320,2321R,2920R
NSQ-LLL**	2420R*,NSQ HLL,2230,2231R,2330,2331R,2930R
DM	ACAD-2016 and 2021, 4001-4005, 4510R,4511R
*2420 is a prerequisite to start NSQ-LLL syllabus	
R and Gray highlight = Refresher POI events required for re-qualification	

INDIVIDUAL DESIGNATION REQUIREMENT FOR 7566	
Designation	**Event Requirements**
H2P	Core Skill Introduction complete,1902
HAC	Core Skill and Mission Skill complete,S5100,S5101,5110,6120,6121,6122R
BIP	Core Skill and Mission Skill Complete,S5100,S5101,5110,6120,6121,6122R
SEC LDR	6200,6201,6202,6203R
DIV LDR	6300,6301 6302R
FLT LDR	6400
AIR MSN CDR	6500
FLSE	AFL or WTI, observe FLSE conducted check ride, Designated by MAG-CO, no check flight required
TERFI	Designated Section Leader, ACAD-5000,5200,5201,5202
ARI	Designated Section Leader, 4942, ACAD-5000, 5300,5301
DMI	Designated Division Leader, ACAD-5000, 5700,5701,5702
NSI	Designated Section Leader, Designated TERFI, 5800-5805
WTI	Per MAWTS-1 WTI Course Catalog
FRSI-E	5500, 5502,5503,5504,5505,5506
NI/ANI	6100 given by Model Manager / 6100 given by a NATOPS Instructor
NII	Designated by Squadron CO
FCP	6610-6617, IAW OPNAVINST 4790 and command specific directives

INDIVIDUAL DESIGNATION REQUIREMENT FOR 7564	
Designation	**Event Requirements**
H2P	Core Skill Introduction complete,1902
HAC	S5100,S5101,5110,6120,6121,6122R
BIP	S5100,S5101,5110,6120,6121,6122R
SEC LDR	6200,6201,6202,6203R
DIV LDR	6300,6301,6302R
FLT LDR	6400
AIR MSN CDR	6500
FLSE	AFL or WTI, observe FLSE conducted check ride, Designated by MAG-CO, no check flight required
TERFI	Designated Section Leader, ACAD-5000, 5200,5201,5202
DMI	Designated Division Leader, ACAD-5000, 5700,5701,5702
NSI	Designated Section Leader, Designated TERFI, 5801-5805
WTI	Per MAWTS-1 WTI Course Catalog
FRSI-D	5400,5401,5402
NI/ANI	6100 given by Model Manager / 6100 given by a NATOPS Instructor
NII	Designated by Squadron CO
FCP	6610-6615,6117 IAW OPNAVINST 4790 and command specific directives

205. PROGRAMS OF INSTRUCTION (POI)

1. Basic/Transition POI

WEEKS	COURSE/PHASE	ACTIVITY
1-24	CH-53E Core Skill Intro	FRS
25-68	Core Skill	Tactical Squadron
68+	Mission Skills	Tactical Squadron
68+	Core Plus Skills and Missions	Tactical Squadron

2. Series Conversion (SC) POI

WEEKS	COURSE/PHASE	ACTIVITY
1-12	Core Skill Introduction	Training Squadron
13-36	Core Skill	Tactical Squadron
36+	Mission Skill	Tactical Squadron
36+	Core Plus Skills and Missions	Tactical Squadron

3. Refresher (R) POI

WEEKS	COURSE/PHASE	ACTIVITY
1-4	CH-53D or CH-53E Core Skill Intro	FRS
5-26	Core Skill	Tactical Squadron
27+	Mission Skill	Tactical Squadron
27+	Core Plus Skills and Missions	Tactical Squadron

4. POI Fleet Replacement Squadron Instructor Echo Pilot

WEEKS	COURSE/PHASE	ACTIVITY
1-4	CH-53E INSTRUCTOR PILOT FLT TRNG	FRS

5. POI Fleet Replacement Squadron Instructor Delta Pilot

WEEKS	COURSE/PHASE	ACTIVITY
1-2	CH-53D INSTRUCTOR PILOT FLT TRNG	Tactical Squadron

6. Basic, Transition, and Model Conversion pilots shall be assigned to the Basic POI. Full or Modified Refresher pilots will fly those flights designated by an MR or R in the flight description IAW the Program Manual

NAVMC 3500.14. Series conversions will fly those flights designated by an SCE or SCD. Those pilots previously designated 7566 and/or 7564, returning to either a 7566 or 7564 billet (and have not been out of T/M for greater than 485 days) do not require series conversion and shall complete a squadron refresher syllabus IAW with Section 208, part 6. The squadron training officer shall ensure all Aircrew Training Forms (ATFs) are entered in section 3 of the Aircrew Performance Record (APR) for all initial, series conversion or refresher events designated by RE, RD, MRE, MRD, SCE, SCD in the event description. These ATFs will replace ATFs previously entered in section 3.

7. Model Conversion. Pilots selected for model conversion to the CH-53 shall be assigned to the Basic POI. The following Basic POI events shall be waived at the FRS: 1101, 1102, 1103, 1104, 1107, 1113, 1115, 1117, 1119, 1300, 1303, 1304, 1400, 1502, 1600, 1602, 1604 and 1800. Pilots selected for model conversion to the CH-53D shall conduct Core Skill Introduction training at HMHT-302, followed by CH-53D Series Conversion Core Skill Introduction training conducted at MAG-24. Upon completion of CH-53E to CH-53D Series Conversion Core Skill Introduction training, model conversions to the CH-53D shall resume the Basic POI, per this manual. Upon completion of the HAC syllabus, model conversions may be re-designated with their highest previous flight leadership designation at the discretion of the Squadron Commanding Officer.

8. CH-53 Series Conversion. CH-53D to CH-53E Series Conversion pilots will fly those 1000 level flights designated by an SCE in the event description at the FRS. CH-53E to CH-53D Series Conversion pilots will fly those 1000 level flights designated by a SCD in the event description at MAG-24. CH-53D initial accession pilots will perform Core Skill Introduction training at HMHT-302 followed by CH-53E to CH-53D Series Conversion Core Skill Introduction training conducted at MAG-24. Upon completion of CH-53E to CH-53D Series Conversion Core Skill Introduction training, initial accession pilots shall resume the Basic POI syllabus per the T&R. Upon completion of 1000 level SCD/E events, Series Conversion pilots shall continue to fly SC-coded events at the tactical squadron. Current CH-53D pilots who have previously attained the 7566 MOS conducting a Series Conversion who have not exceeded 485 days since their last CH-53 flight will conduct the Series Conversion at their Tactical Squadron. Those Pilots will fly the 2000-8000 level Series Conversion syllabus. The Squadron Commanding Officer may tailor the series conversion syllabus to fit the experience of the conversion pilot, per the squadron standardization board recommendations and NAVMC 3500.14, Aviation T&R Program Manual, chapter 2, paragraph 207.

9. CH-53E to CH-53D Series Conversion and CH-53D Refresher Core Skill Introduction Training. MAG-24 shall manage and execute CH-53E to CH-53D Series Conversion and CH-53D Refresher Core Skill Introduction training (vice a CH-53D FRS). MAG-24 shall provide a training environment where other billet responsibilities do not detract from that training IAW NAVMC DIR 3500.14 (Program Manual).

a. CH-53D Core Skill Introduction training conducted at MAG-24 shall be conducted IAW the MAG-24 Core Skill Introduction Training Standardization Manual.

b. Enlisted aircrew assigned to these syllabi shall check in to MAG-24 and remain with the MAG until the POI is complete. Upon completion of the POI, aircrew will be given orders assigning them to an operational squadron.

c. Each MAG-24 CH-53D Squadron shall be manned by a minimum of one pilot and one Crew Chief FRSI-D.

d. The MAG-24 standardization evaluator shall certify all FRSI-D prior to designation. The MAG-24 standardization evaluator shall conduct an annual standardization check for all FRSI-D.

e. Only the MAG-24 Commanding Officer may approve waiver/deferral of Core Skill Introduction training (per paragraph 305 of NAVMC DIR 3500.14 (Program Manual).

f. MAG-24 shall coordinate aircraft support from CH-53D squadrons in support of these syllabi.

10. CH-53E FRS Refresher/ Modified Refresher Training. CH-53E pilots requiring FRS Refresher Training IAW NAVMC 3500.14, Aviation T&R Program Manual, Chapter 4, paragraph 405 shall fly the appropriate 1000 level MRE or RE-coded events per this manual at the FRS. CH-53E pilots converting to the CH-53D, requiring FRS Refresher training shall complete the appropriate 1000 level MRD or RD-coded events and CH-53D Series Conversion training concurrently at MAG-24.

11. CH-53D FRS Refresher/Modified Refresher Training. CH-53D pilots requiring FRS Refresher Training IAW NAVMC 3500.14, Aviation T&R Program Manual, Chapter 4, paragraph 405 shall fly the appropriate 1000 level MRD or RD events per this manual at MAG-24.

12. Tactical Squadron Refresher/Conversion Syllabus (2000-8000). The Squadron Refresher and Conversion Syllabus is predicated on the experience of the refresher and/or conversion pilot. A pilot in the squadron refresher syllabus should fly all R coded events. The Squadron Commanding Officer may tailor the squadron refresher or conversion syllabus to fit the experience of the refresher or conversion pilot per the squadron standardization board recommendations and NAVMC 3500.14, Aviation T&R Program Manual, chapter 2, paragraph 207. When the R coded events within a stage of training are complete, the pilot may be credited with the entire stage of training. This assumes the Refresher pilot has previous proficiency in a stage of training. If the Refresher pilot has no previous proficiency in a stage or particular event (i.e. event Never Been Attempted (NBA)), then the Refresher shall fly the entire stage or all events not previously attempted.

206. ACADEMIC TRAINING

1. General. The Academic syllabus is designed to ensure pilots receive the proper academic training prior to starting a new phase and stage of training. Within each phase of training (1000-8000) there are corresponding stages, each stage has an academic syllabus. The required academic syllabus for each stage of training is further delineated in the beginning paragraphs of each phase. Each phase and stage contain specific academic requirements which must be completed either prior to phase and/or stage initiation or prior to phase and/or stage completion. Academic/ground training events can either be accomplished by an individual utilizing self paced courseware or presented by a qualified instructor. The PUI and PTO shall ensure that the appropriate academic/ground training event is manually updated in MSHARP and logged in the APR.

2. Requirements. The purpose of the academic syllabus is to ensure that required academic courses for each phase/stage of training are completed and logged in M-SHARP for each Crew Member. A summary of academic classes that is required for all of the phases of training (0000-8000) are listed below with their corresponding T&R code. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

a. The academic/ground training shall be complete IAW the phase and/or stage requirements and prerequisites. Upon completion, the PUI shall report to the appropriate Operations Department (S-3) representative (typically the PTO) or designated representative(s), who will then manually update the

training code in MSHARP and log the academic/ground training event in the appropriate section APR, using the format listed in enclosure (1) of this document.

b. Annual academic/ground training events shall be updated in MSHARP and logged in the appropriate section of the APR, each time they are completed IAW the refly interval.

c. Additionally, academic/ground training classes not listed as requirements in the T&R should be logged in the appropriate section of the APR using enclosure (1).

d. Upon signature of this manual, the squadron operations department will manually update and baseline all academic requirements, in both MSHARP and APR(s) for all phases and stages that aircrew have previously completed, at the discretion of the Squadron Commanding Officer.

T&R CODE	ACADEMIC SYLLABUS
	FRS ACADEMIC PHASE (0000-0999)
CBT-0001	INTRO TO THE CH-53
CBT-0002	THE AUXILLARY POWER PLANT
CBT-0003	THE ELECTRICAL SYSTEM
CBT-0004	HYDRAULIC SYSTEM
CBT-0005	FUEL SYSTEM
CBT-0006	ENGINES
CBT-0007	DRIVE TRAIN
CBT-0008	CHIP DETECTING SYSTEM
CBT-0009	ROTOR SYSTEM
CBT-0010	FLIGHT CONTROL SYSTEM
CBT-0011	AUTOMATED FLIGHT CONTROL SYSTEM (AFCS)
CBT-0012	BLADE/PYLON FOLD AND ROTOR BRAKE SYSTEM
CBT-0013	LANDING GEAR AND WHEEL BRAKE SYSTEM
CBT-0014	MISCELLANEOUS SYSTEM
CBT-0015	COMMUNICATION AND NAVIGATION SYSTEMS
CBT-0016	AIRCRAFT SURVIVABILITY EQUIPTMENT
CBT-0017	PREFLIGHT PLANNING AND PROCEDURES
CBT-0018	INTRODUCTION TO THE FLIGHT PHASE
CBT-0019	NIGHT FLIGHT
CBT-0020	INSTRUMENT FLIGHT AND NAVIGATION
CBT-0021	VFR NAVIGATION, GPS AND HELICOPTER NIGHT VISION SYSTEMS (HNVS)
CBT-0022	FORMATION FLIGHT
CBT-0023	CONFINED AREA LANDINGS
CBT-0024	EXTERNAL CARGO OPERATIONS
ACAD-0100	GROUND SCHOOL INTRO IN-BRIEF
ACAD-0101	ELECTRICAL SYSTEM
ACAD-0102	HYDRAULIC SYSTEM
ACAD-0103	FUEL SYSTEM
ACAD-0104	ENGINES AND THE AUXILLARY POWER PLANT

ACAD-0105	DRIVE TRAIN AND ROTOR SYSTEM
ACAD-0106	FLIGHT CONTROL SYSTEM
ACAD-0107	AUTOMATED FLIGHT CONTROL SYSTEM (AFCS)
ACAD-0108	COMMUNICATION AND NAVIGATION SYSTEMS
ACAD-0109	CREW RESOURCE MANAGEMENT (CRM) INITIAL
LAB-0110	INTRODUCE PREFLIGHT INSPECTION PROCEDURES
LAB-0111	PRACTICE PREFLIGHT INSPECTION PROCEDURES
LAB-0112	REVIEW PREFLIGHT INSPECTION PROCEDURES
MAG-24 STANDARDIZATION DEPARMENT	
ACAD-0200	WELCOME ABOARD
ACAD-0201	CH-53D CBT'S (POI COURSEWARE COMPLETE)
ACAD-0202	COURSE RULES BRIEF
ACAD-0203	COURSE RULES TEST
ACAD-0204	EP TEST
ACAD-0205	LIMITS TEST
ACAD-0206	OPEN BOOK NATOPS EXAM
ACAD-0207	CLOSED BOOK NATOPS EXAM
LAB-0110	INTRODUCE PREFLIGHT INSPECTION PROCEDURES
LAB-0111	PRACTICE PREFLIGHT INSPECTION PROCEDURES
LAB-0112	REVIEW PREFLIGHT INSPECTION PROCEDURES
T&R CODE	**ACADEMIC SYLLABUS**
	CORE SKILL PHASE (2000-2999)
FAM STAGE	
ACAD-2000	(U) CH-53 GPS
ACAD-2001	(U) ARC-210/HAVEQUICK/SINCGARS(*)
ACAD-2002	(U) AN/AYK-28
ACAD-2003	(U) CH-53 INTERNAL CARGO OPERATIONS
ACAD-2004	(S) CH-53 AAR/ALE-47 (*)
ACAD-2005	(U) CH-53 TACFORM
ACAD-2006	(U) CH-53 PFPS TECHNIQUES
CAL STAGE	
ACAD-2007	(U) DESERT OPERATIONS(*)
ACAD-2008	(U) MOUNTAIN OPERATIONS(*)
ACAD-2009	(U) COMBAT AIRCREW COORDINATION
ACAD-2010	(U) HUD
TERF STAGE	
ACAD-2011	(U) ASD TERRAIN FLIGHT
ACAD-2012	(S) CH-53 APR-39 (*)
ACAD-2013	(S) SURFACE TO AIR THREAT TO THE MAGTF
EXT STAGE	
ACAD-2014	(U) HEAVY LIFT OPERATIONS(*)
ACAD-2015	(U) ASSAULT SUPPORT TO ARTILLERY

GTR STAGE	
ACAD-2016	(U) CH-53 DM/GTR I
ACAD-2017	(S) IR SAM THREAT TO ASSAULT SUPPORT(*)
ACAD-2018	(S) CH-53 ALQ-157(*)
ACAD-2019	(S) AAQ-24(*)
ACAD-2020	(S) AAA THREAT TO ASSAULT SUPPORT
ACAD-2021	(S) EVASIVE MANEUVERS
HAAR STAGE	
ACAD-2022	(U) HAAR(*)
AG STAGE	
ACAD-2023	(U) CH-53 WEAPONS SYSTEMS AND TRAINING
ACAD-2024	(U) WEAPONS EMPLOYMENT TECHNIQUES
ACAD-2025	(U) INTRO TO LASER SYSTEMS AND SAFETY
ACAD-2026	(U) FSCMS(*)
TAC STAGE	
ACAD-2027	(U) OBJECTIVE AREA PLANNING(*)
ACAD-2028	(S) ROE
ACAD-2029	(U) EXECUTION CHECKLIST
ACAD-2030	(U) MISSION ANALYSIS(*)
HLL STAGE	
ACAD-2031	(U) ASSAULT NVG PREFLIGHT AND ADJUSTMENT PROCEDURES
ACAD-2032	(U) NVG SYSTEMS AND IMAGE CHARACTERISTICS
ACAD-2033	(U) THE NIGHT ENVIRONMENT
ACAD-2034	(U) MISPERCEPTIONS AND ILLUSIONS
ACAD-2035	(U) NIGHT ROUTE PLANNING CONSIDERATIONS
ACAD-2036	(U) NIGHT OPERATIONS AND PLANNING AIDS
LLL STAGE	
ACAD-2037	(U) HUMAN FACTORS
ACAD-2038	(U) FLIR TRAINING COURSE
ACAD-2039	(U) CH-53 HNVS FLIR
ACAD-2040	(S) ASSAULT SUPPORT ESCORT TACTICS
ACAD-2041	(U) BATTLEFIELD ILLUMINATION AND FW ITG

* Denotes annual academic training requirements.

T&R CODE	**ACADEMIC SYLLABUS**
	MISSION SKILL PHASE (3000)
EXP STAGE	
ACAD-3000	(U) RAPID RESPONSE PLANNING
ACAD-3001	(S) REC THREAT TO THE MAGTF
AT STAGE	
ACAD-3002	(U) NEO EXECUTION
ACAD-3003	(U) INTELLIGENCE PREPARATION OF THE BATTLE SPACE

TRAP STAGE	
ACAD-3004	(S) PERSONNEL RECOVERY
ACAD-3005	(S) CH-53 SPECIFIC TRAP TTPS
AE STAGE	
ACAD-3006	(U) CASEVAC
ACAD-3007	(U) CIRCADIAN RHYTHM AND FATIGUE
ACAD-3008	(U) INTRO TO NVG TACTICAL EMPLOYMENT

* Denotes annual academic training requirements.

T&R CODE	ACADEMIC SYLLABUS
	CORE PLUS SKILL PHASE (4000)
GTR STAGE	
ACAD-4000	(S) RF SAM
DM STAGE	
ACAD-4001	(S) DM GAME PLANNING
ACAD-4002	(U) CH-53 DM/GTR II
ACAD-4003	(U) HELICOPTER PS AND EM
ACAD-4004	(S) FW THREAT TO ASSAULT SUPPORT
ACAD-4005	(S) ATTACK HELICOPTER THREAT TO ASSAULT SUPPORT
TAC STAGE	
ACAD-4006	(U) RGR
ACAD-4007	(S) MOUT
RAID STAGE	
ACAD-4008	(U) JCAS
ACAD-4009	(S) GCE RAID PLANNING
ACAD-4010	(U) MAGTF TARGETING AND FIRE SUPPORT PLANNING
ADGR STAGE	
ACAD-4011	(U) TBFDS/MK-105

T&R CODE	ACADEMIC SYLLABUS
	INSTRUCTOR TRAINING PHASE (5000)
ACAD-5000	(U) INSTRUCTIONAL TECHNIQUES

T&R CODE	ACADEMIC SYLLABUS
	FLIGHT LEADERSHIP TRAINING PHASE (6000)
ACAD-6010	(U) TACTICAL FLIGHT BRIEFING
ACAD-6011	(U) AMC

T&R CODE	ACADEMIC SYLLABUS
	AVIATION CAREER PROGRESSION MODEL PHASE (8000)
CORE SKILL PHASE	
ACPM-8200	(U) MACCS AGENCIES, FUNCTIONS, AND CONTROL OF AIRCRAFT AND MISSILES
ACPM-8201	(U) MWCS BRIEF
ACPM-8202	(U) ACA AND AIRSPACE
ACPM-8210	(U) AVIATION GROUND SUPPORT
ACPM-8230	(U) ACE BATTLESTAFF
ACPM-8231	(U) BATTLE COMMAND DISPLAY
ACPM-8240	(U) SIX FUNCTIONS OF MARINE AVIATION(*)
ACPM-8241	(U) JTAR/ASR INTRODUCTION AND PRACTICAL APPLICATION
ACPM-8242	(U) SITE COMMAND PRIMER
ACPM-8250	(U) THEATER AIR GROUND SYSTEM (TAGS)
MISSION SKILL PHASE	
ACPM-8300	(U) AIR DEFENSE
ACPM-8310	(U) FORWARD ARMING AND REFUELING POINT (FARP) OPERATIONS
ACPM-8311	(U) MARINE CORPS TACTICAL FUEL SYSTEMS
ACPM-8320	(U) JOINT STRUCTURE AND JOINT AIR OPERATIONS
ACPM-8321	(U) JOINT AIR TASKING CYCLE PHASE 1: STRATEGY DEVELOPMENT
ACPM-8322	(U) JOINT AIR TASKING CYCLE PHASE 2: TARGET DEVELOPMENT
ACPM-8323	(U) JOINT AIR TASKING CYCLE PHASE 3: WEAPONEERING AND ALLOCATION
ACPM-8324	(U) JOINT AIR TASKING CYCLE PHASE 4: JOINT ATO PRODUCTION
ACPM-8325	(U) JOINT AIR TASKING CYCLE PHASE 5: FORCE EXECUTION
ACPM-8326	(U) JOINT AIR TASKING CYCLE PHASE 6: COMBAT ASSESSMENT
ACPM-8340	(U) INTEGRATING FIRES AND AIRSPACE WITHIN THE MAGTF
ACPM-8350	(U) PHASING CONTROL ASHORE
ACPM-8351	(U) TACRON ORGANIZATIONS AND FUNCTIONS
SECTION LEAD SYLLABUS	
ACPM-8630	(U) TACTICAL AIR COMMAND CENTER (TACC)
ACPM-8660	(U) JOINT OPERATIONS INTRODUCTION
DIVISION LEAD SYLLABUS	
ACPM-8640	(U) JOINT DATA NETWORK
ACPM-8641	(S) MAGTF THEATER AND NATIONAL ISR EMPLOYMENT
FLIGHT LEAD SYLLABUS	
ACPM-8620	(U) ESG/CSG INTEGRATION

* Denotes annual academic training requirements.

207. SYLLABUS NOTES

1. General

a. This manual is written to allow for local conditions and yet remain unclassified. DC AVN and CG MCCDC encourage squadrons to use the full range of tactics in the tactical manuals and adopt the latest developed and proven tactics.

b. All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance using all evaluation techniques.

c. The following event descriptors annotate the environment under which syllabus events are flown. The flight simulator is used for those events designated with an S. To provide Commanding Officers the maximum amount of flexibility for training, some events allow for the optional use of simulators or aircraft. Those events will use A/S for aircraft preferred, simulator optional and S/A for simulator preferred, aircraft optional. The visual system is required for completion of syllabus events in the simulator except for instrument flights that can be flown without the visual system.

Environmental Conditions	
Code	**Meaning**
D	Shall be flown during day: (by exception - there is no use of a symbol)
N	Shall be flown at night: may be aided or unaided
N*	Shall be flown at night: must be flown unaided
(N*)	May be flown at night: If flown at night must be flown unaided
(N)	May be flown at night: If flown at night, may be flown aided or unaided
NS	Shall be flown at night: Mandatory use of Night Vision Devices
(NS)	May be flown at night: If flown at night, must be flown with Night Vision Devices
Note – If the event is to be flown in the simulator, the Simulator Instructor shall set the desired environmental conditions for the event.	

d. Computer Based Training (CBT). The CBT program is only required for the FRS and MAG-24 Core Skill Introduction Academics. All pilots assigned to the FRS and MAG-24 shall complete assigned CBT lessons prior to completion of the applicable stage, per the FRS and MAG-24 POI.

e. All references to HNVS, HUD, dual point externals, TBFDS, and aerial refueling apply only to the CH-53E. CH-53Ds will perform single point externals on all external events.

2. Prior Designation/Qualification:

a. Re-designation (HAC, SecLdr, DivLdr, FltLdr, AMC). Those pilots assigned to either a full or modified refresher syllabus (i.e. not having flown for greater than 485 or 730 days) IAW the Program Manual NAVMC 3500.14, may be re-designated their highest previous flight leadership designation up to DivLdr upon successful completion of the “R” coded flight leadership events. Re-designation of FltLdr and AMC is at the discretion of the MAG-CO, based on pilot experience and following re-designation of DivLdr. Those pilots conducting a squadron refresher (i.e. flown within 485 days, but more than 365 days) may be re-designated(all previous flight leadership designations) upon the successful completion of a HAC check, at the discretion of the Squadron Commanding Officer.

b. Re-qualification (TERFQ, NSQ HLL, NSQ LLL, DMQ). Upon demonstration of proficiency, by flying those R coded events, IAW the Program Manual NAVMC 3500.14, within the applicable stage in a specific core skill, aircrew may be re-qualified at the discretion of the Squadron Commanding Officer.

c. Instructor Re-designation (BIP, TERFI, ARI, DMI, NSI). Those pilots requiring full or modified refresher training, IAW the Program Manual NAVMC 3500.14 must fly all R coded flight events for Instructor re-designation. Those pilots conducting a squadron refresher may, upon demonstration of proficiency in a specific core skill and completion of the appropriate prerequisite, be re-designated as an instructor in that core skill (per this manual and the CH-53 MAWTS-1 course catalog) at the discretion of the Squadron Commanding Officer.

3. Crew Position Designator. The emphasis in training for basic pilot training should be in the left seat through Core skill introduction training.

4. Aircrew Evaluation Forms. Events shall be documented IAW NAVMC 3500.14 Aviation Program Manual, chapter 2, paragraph 209 and using the form listed in this manual.

5. CRM. Aircrews shall brief techniques of CRM for all flights and/or events.

6. Definition of Terms

a. Demonstrate: The description and performance of a particular maneuver is demonstrated by the instructor, observed by the PUI. The PUI is responsible for knowledge of the procedures prior to the demonstration of a required maneuver.

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

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

d. Practice: The performance of a maneuver or procedure by the PUI that may have been previously introduced in order to attain a specified level of performance.

e. Review: Demonstrated proficiency of a maneuver by the PUI.

208. CORE SKILL INTRODUCTION PHASE (1000)

1. Purpose. To introduce the basic flight skills required in the CH-53.

2. General

a. Stages: Core Skill Introduction stages are as follows:

1000-ACAD
1100-FAM
1200-NFAM
1300-INST
1400-NAV
1500-FORM
1600-CALS
1700-EXT
1800-TERF
1900-REV/CSIX

b. Ground school is set up in two parts: CBTs and ACAD classes.

c. The Commanding Officer of the HMHT-302 FRS and MAG-24 has the responsibility to define the required content, conduct reviews, forward required changes and approve the content for his/her Ground School events, as applicable.

d. The CO of HMHT-302 and CO MAG-24 has waiver authority over any event within Ground School for the respective syllabus.

e. CBT modules listed in the Academic Syllabus of this T&R, apply to CH-53Es only (CH-53D CBT module list resides at MAG-24 STAN).

3. Crew Requirement. IP/RAC/CC. AO required for FAM-1201 and FAM-1202.

4. Academic/Ground Training. The following Core Skill Introduction academic/ground training shall be complete IAW the POI requirements and prerequisites. Upon completion, the PUI shall report to the Student Control Officer, appropriate MAG-24 Standardization personnel or designated representative(s), who will then manually update the training code in MSHARP and log the academic/ground training event in section 2, FRS Aircrew Evaluation Forms of the APR, using the format listed in Enclosure 1 of this document.

CBT-0001	1.0	RE,MRE,SCE,CIUTE	CBT

Introduction to the CH-53

Goal. The PUI has completed all introduction modules with a basic understanding of the CH-53.

Requirement

Modules:

H-53 Series Historical Data and Publications
General Aircraft Information - Exterior
General Aircraft Information - Interior

CBT-0002	1.0	RE,MRE,SCE,CIUTE	CBT

The Auxiliary Power Plant

Goal. The PUI has completed all Auxiliary Power Plant (APP) modules with a basic understanding of the system.

Requirement

Modules:
APP System Overview and Components
APP System Operation

Prerequisite. CBT-0001

CBT-0003	2.0	RE,MRE,SCE,CIUTE	CBT

The Electrical System

Goal. The PUI has completed all Electrical System modules with a basic understanding of the system.

Requirement

Modules:
Basic Electrical Theory and Symbology
Electrical Power System

Prerequisite. CBT-0001

CBT-0004	2.0	RE,MRE,SCE,CIUTE	CBT

Hydraulic System

Goal. The PUI has completed all Hydraulic System modules with a basic understanding of the CH-53E electrical system.

Requirement

Modules:
- Basic Hydraulic Theory and Symbology
- Hydraulic Systems Overview
- Flight Control Hydraulics
- Utility Hydraulics
- In-flight Hydraulic Replenishment System*

Prerequisite. CBT-0001

CBT-0005	1.5	RE,MRE,SCE,CIUTE	CBT

Fuel System

Goal. The PUI has completed all Fuel System modules with a basic understanding of the CH-53E system.

Requirement

Modules:
- Airframe Fuel System Overview and Components
- Refuel and Defuel Systems
- Dump and Purge* Systems
- Auxiliary Fuel Tank System
- Fuel Indicating and Low Level Warning Systems

Prerequisite. CBT-0001

CBT-0006	2.5	RE,MRE,SCE,CIUTE	CBT

Engines

Goal. The PUI has completed all Engine modules with a basic understanding of the system.

Requirement

Modules:
- Engine Overview Components and Controls
- Engine Lubrication System
- Engine Fuel Supply System
- Engine Start and Operation
- Engine Air Particle Separator (EAPS)
- Engine Anti-Ice
- Engine Torque Indicating System
- Engine Overtorque Warning System
- Engine Overspeed Protection System
- Engine Fire Protection

Prerequisite. CBT-0001

CBT-0007	2.5	RE,MRE,SCE,CIUTE	CBT

Drive Train

Goal. The PUI has completed all modules with a basic understanding of the CH-53E drive train.

Requirement

Modules:
Powertrain Overview
Accessory and Nose Gear Boxes
Main Gear Box
Intermediate and Tail Gear Boxes
Drive Shaft and Disconnect Couplings

Prerequisite. CBT-0001

CBT-0008	1.0	RE,MRE,SCE,CIUTE	CBT

Chip Detecting System

Goal. The PUI has completed the module with a basic understanding of the CH-53E chip detecting system, to include the engines and all gearboxes.

Requirement

Modules:
Chip Detecting System

Prerequisite. CBT-0006 and CBT-0007

CBT-0009	1.0	RE,MRE,SCE,CIUTE	CBT

Rotor System

Goal. The PUI has completed the modules with a basic understanding of the CH-53E rotor system.

Requirement

Modules:
Main Rotor System
In-flight Blade Inspection System
Tail Rotor System

Prerequisite. CBT-0001

CBT-0010	3.0	RE,MRE,SCE,CIUTE	CBT

Flight Control System

Goal. The PUI has completed the flight control system modules with a basic understanding of the CH-53E flight control system.

Requirement

Modules:
Basic Helicopter Aerodynamics*
Mechanical Flight Controls
Hydraulic Flight Controls

Prerequisite. CBT-0004 and CBT-0009

CBT-0011	2.0	RE,MRE,SCE,CIUTE	CBT

Automated Flight Control System (AFCS)

Goal. The PUI has completed the modules with a basic understanding of the CH-53E AFCS system.

Requirement

Modules:
DAFCS Overview and Channel Philosophy

AFCS Servo Interface and Modes of Operations*
Engagement Control
Malfunction Indications*

Prerequisite. CBT-0004 and CBT-0010

CBT-0012 2.5 RE,MRE,SCE,CIUTE CBT

Blade/Pylon Fold and Rotor Brake System

Goal. The PUI has completed the modules with a basic understanding of the systems.

Requirement

Modules:
Rotor Brake and Gust Lock Systems
Main Rotor Head Positioning System
Stick Position Indicating System
Blade Fold/Spread System
Pylon Fold/Spread System

Prerequisite. CBT-0004

CBT-0013 1.5 RE,MRE,SCE,CIUTE CBT

Landing Gear and Wheel Brake System

Goal. The PUI has completed all Landing Gear and Wheel Brake System modules with a basic understanding of the systems.

Requirement

Modules:
Landing Gear
Wheel Brake System
Tail Skid System
Landing Gear and Altitude Warning System

Prerequisite. CBT-0004

CBT-0014 3.0 RE,MRE,SCE,CIUTE CBT

Miscellaneous Systems

Goal. The PUI has completed the modules with a basic understanding of miscellaneous systems of the CH-53.

Requirement

Modules:
Exterior and Interior Lighting Systems
Cabin Heater System
Ice Detector System
Windshield Anti-Ice system
Ramp and Door System
Utility/Rescue Hoist System*
Cargo Winch System
Single Point Hook System
Two Point Hook System

Prerequisite. CBT-0001

CBT-0015 2.0 RE,MRE,SCE,CIUTE CBT

Communication and Navigation Systems

Goal. The PUI has completed the modules with a basic understanding of communication and navigation systems of the CH-53.

Requirement

Modules:
- Communication Systems
- Navigation Displays and VGI
- Navigation I: Compass System
- Navigation II: Global Positioning System (GPS)
- IFF, Radar Altimeter
- Forward Looking Infrared (FLIR)

Prerequisite. CBT-0001

CBT-0016 2.5 RE,MRE,SCE,CIUTE CBT

Aircraft Survivability Equipment

Goal. The PUI has completed the modules with a basic understanding of aircraft survivability equipment of the CH-53.

Requirement

Modules:
- ALE-47v2
- APR-39*
- AAR-47v2
- ALQ-157 (D only)

Prerequisite. CBT-0001

CBT-0017 2.0 SCE,CIUTE CBT

Preflight Planning and Procedures

Goal. The PUI has completed the modules with a basic understanding of preflight planning and procedures.

Requirement

Modules:
- Weight and Balance
- Helicopter Preflight
- Brief and Prestart I
- Prestart II and Post-Flight
- Pre-taxi Safety, EPs, & CRM

Prerequisite. CBT 0001-0016

CBT-0018 3.0 SCE,CIUTE CBT

Introduction to the Flight Phase

Goal. The PUI has completed the modules with a basic understanding of the flight phase.

Requirement

Modules:
- Taxi, Takeoff, Hover, & Departure
- Takeoff, Transition, Cruise, Approach, & Landing

Descent, Approach, Landing Takeoff, & Departure
Crosswind Takeoff & Landing
Post Flight
Rearward Flight, Autorotations, Engine Failures, Debriefing, Enroute
Takeoffs, Approach, Quick Stop, & Landings
AFCS, trim, Servo Malfunctions, Postflight, EPs & CRM
Single Point Performance Check
Integrated Maintenance Diagnostic System (IMDS)

Prerequisite. CBT-0017

CBT-0019	1.5	SCE,CIUTE	CBT

Night Flight

Goal. The PUI has completed the modules with a basic understanding of the night flight.

Requirement

Modules:
Night Flying
Aircraft Lighting

Prerequisite. CBT-0017

CBT-0020	2.5	SCE,CIUTE	CBT

Instrument Flight and Navigation

Goal. The PUI has completed the modules with a basic understanding of instrument flight and navigation.

Requirement

Modules:
Basic Instrument Maneuvers
IFR Navigation I
IFR Navigation II
IFR Navigation III

Prerequisite. CBT-0017

CBT-0021	2.5	SCE,CIUTE	CBT

VFR Navigation, GPS and Helicopter Night Vision Systems (HNVS)

Goal. The PUI has completed the modules with a basic understanding of VFR navigation, GPS and HNVS.

Requirement

Modules:
Enroute Requirements, Procedures, & VFR Navigation I
HNVS Introduction
GPS Introduction
HNVS Operating Procedures
GPS Operating Procedures

Prerequisite. CBT-0017

CBT-0022	1.0	SCE,CIUTE	CBT

Formation Flight

Goal. The PUI has completed the modules with a basic understanding of formation flight.

Requirement

Modules:
- Basic Formation I
- Basic Formation II

Prerequisite. CBT-0017

CBT-0023	1.0	SCE,CIUTE	CBT

Confined Area Landings

Goal. The PUI has completed the modules with a basic understanding of Confined Area Landings (CAL).

Requirement

Module:
- Confined Area Landings

Prerequisite. CBT-0017

CBT-0024	2.0	SCE,CIUTE	CBT

External Cargo Operations

Goal. The PUI has completed the modules with a basic understanding of single- and two-point external cargo operations.

Requirement

Modules:
- Single-Point External Lift Procedures, Day & Night
- Two-Point External Lift Prelaunch, Preflight, Pre-takeoff, & Departure
- Two-Point External Lift Enroute, Approach, Descent, & Load Release
- Two-Point External Lift Safety, EPs, and CRM

Prerequisite. CBT-0017

ACAD-0100	1.0	CIUTE	CLSRM

Ground School Intro In-Brief

Goal. The PUI understands the expectations during Ground School and has the requisite knowledge of the course and where all the necessary references can be accessed to complete the Core Skill Introduction Phase.

Requirement

Discuss:
- Overall Course Design for Ground School
- The Core Skill Introduction Phase.
- Welcome Aboard Package
- Class Schedule
- Systems reference material
- List, locate, and access to all appropriate references that

will be required through the Core Skill Introduction Phase. Expectations of PUI during Ground School to include work schedule, CBT preparation, and event prerequisites. Squadron and MATSS processes, particularly scheduling.

Demonstrate:
Computer based training access
Basic operation of CBTs.

Prerequisite. CBT 0001-0016

ACAD-0101	3.0	CIUTE	CLSRM

Electrical System

Goal. The PUI has an in-depth knowledge of the CH-53E electrical system, aircrew interaction and related EPs.

Requirement

Reading:
Applicable excerpts from CH-53 NATOPS and Systems Guide.

Discuss:
Basic architecture and major components
Recognition of component failures
Impact of component failures
Correct response to any component failure

Prerequisite. CBT 0001-0016

ACAD-0102	3.0	CIUTE	CLSRM

Hydraulic System

Goal. The PUI has an introductory knowledge of the CH-53E hydraulic, landing gear, and wheel brake systems, aircrew interaction, and related EPs.

Requirement

Reading:
Applicable excerpts from the CH-53E NATOPS and Systems Guide.

Discuss:
Basic architecture and major components
Normal operation of the hydraulic system
Normal operation of the landing gear system
Normal operation of the wheel brake system
Hydraulic system indicators
Associated caution and advisory lights
Correct response to any component failure

Prerequisite. CBT 0001-0016

ACAD-0103	2. 0	CIUTE	CLSRM

Fuel System

Goal. The PUI has an introductory knowledge of the CH-53E fuel system architecture, major components, aircrew interaction, and fuel system EPs.

Requirement

Reading:
Fuel system Student Guide chapter

Discuss:
- Basic architecture and major components
- Operation of the fuel system
- Cautions and advisories associated with the system
- Indications and impact of malfunctions
- Response to malfunctions

Prerequisite. CBT 0001-0016

ACAD-0104 3.0 CIUTE CLSRM

Engines and the Auxiliary Power Plant

Goal. The PUI has an in-depth knowledge of the CH-53E APP, engine, and associated components and systems.

Requirement

Reading:
- Applicable excerpts from the CH-53E NATOPS and Systems Guide.

Discuss:
- Basic architecture and major components
- Associated cautions and advisories
- Indications and recognition of component failures
- Impact of component failures
- Correct response to component failures

Prerequisite. CBT 0001-0016

ACAD-0105 3. 0 CIUTE CLSRM

Drive Train and Rotor System

Goal. The PUI has an in-depth knowledge of the CH-53E drive train.

Requirement

Reading:
- Applicable excerpts from the CH-53E NATOPS and Systems Guide.

Discuss:
- Basic architecture and major components of the drive train
- Drive system cautions and advisories
- Indications and recognition of drive train component failures
- Impact of drive train component failures
- Response to drive train component failures
- Basic architecture and major components of the rotor system
- Rotor system cautions and advisories
- Indications and recognition of rotor system component failures
- Impact of rotor system component failures
- Response to rotor system component failures

Prerequisite. CBT 0001-0016

ACAD-0106 3. 0 CIUTE CLSRM

Flight Control System

Goal. The PUI has an in-depth knowledge of the CH-53E flight control system, major components, aircrew interaction, and

associated emergency procedures.

Requirement

Reading:
Applicable excerpts from the CH-53E NATOPS and Systems Guide

Discuss:
Flight control system basic architecture and major components
Flight control system cautions and advisories
Indications and recognition of flight control system component failures
Impact of flight control system component failures
Response to flight control system component failures

Prerequisite. CBT 0001-0016

ACAD-0107 2. 0 CIUTE CLSRM

Automated Flight Control System (AFCS)

Goal. The PUI has an in-depth knowledge of the architecture, major components and emergency procedures associated with the CH-53E AFCS.

Requirement

Reading:
Applicable excerpts from the CH-53E NATOPS and Systems Guide

Discuss:
Basic architecture and major components of the AFCS
Operation of the AFCS
Identify malfunctions associated with the AFCS
Identify the proper response to AFCS malfunctions

Prerequisite. CBT 0001-0016

ACAD-0108 1.5 CIUTE CLSRM

Communication and Navigation Systems

Goal. The PUI has an in-depth knowledge of the architecture, major components and procedures associated with the CH-53 communication and navigation systems.

Requirement

Reading:
Applicable excerpts from the CH-53E NATOPS and Systems Guide

Discuss
Basic architecture and major components
Operation of the systems
Identify malfunctions associated with the systems

Prerequisite. CBT 0001-0016

ACAD-0109 2.5 CIUTE CLSRM

Crew Resource Management (CRM) Initial

Goal. The PUI understands CRM, the processes, and seven principles, and how they apply to the CH-53.

	Requirement		
	Discuss: Seven principles of Crew Resource Management Crew Resource Management in the CH-53		
ACAD-0200	1.0	RD,MRD,SCD,CIUTD	CLSRM
	MAG-24 Standardization Welcome Aboard Brief		
	Goal. Orient PUI to the MAG-24 Stan det policies and procedures		
	Requirement. Per MAG-24 Stan SOP		
ACAD-0201	91.0	RD,MRD,SCD,CIUTD	CBT
	MAG-24 CH-53D CBT Courseware POI		
	Goal. Complete CH-53D CBT POI		
	Requirement. Per MAG-24 Stan SOP		
ACAD-0202	2.0	RD,MRD,SCD,CIUTD	CLSRM
	MAG-24 Course Rules Brief		
	Goal. Orient PUI to the local course rules		
	Requirement. Per MAG-24 Stan SOP		
ACAD-0203	1.0	RD,MRD,SCD,CIUTD	CLSRM
	MAG-24 Course Rules Test		
	Goal. Test the PUI on MAG-24 Course Rules		
	Requirement. Per MAG-24 Stan SOP		
ACAD-0204	1.0	RD,MRD,SCD,CIUTD	CLSRM
	MAG-24 CH-53D Emergency Procedures Test		
	Goal. Test the PUI on CH-53D Emergency Procedures		
	Requirement. Per MAG-24 Stan SOP		
ACAD-0205	1.0	RD,MRD,SCD,CIUTD	CLSRM
	MAG-24 CH-53D NATOPS Limits Test		
	Goal. Test the PUI on CH-53D NATOPS Limits		
	Requirement. Per MAG-24 Stan SOP		
ACAD-0206	1.0	RD,MRD,SCD,CIUTD	CLSRM
	MAG-24 CH-53D NATOPS Open Book Test		
	Goal. Pass a CH-53D NATOPS Open Book Test		
	Requirement. Per MAG-24 Stan SOP		
ACAD-0207	1.0	RD,MRD,SCD,CIUTD	CLSRM
	MAG-24 CH-53D NATOPS Closed Book Test		
	Goal. Pass a CH-53D NATOPS Closed Book Test		
	Requirement. Per MAG-24 Stan SOP		

LAB-1000 2.0 RE,RD,MRE,MRD,SCE,SCD 1 CH-53 (STATIC) A/S

Goal. Introduce preflight inspection procedures.

Requirement

Instructor:
FAM-1115 complete RAC

Discuss:
Component identification/nomenclature
Aircraft systems functionality

Introduce:
Before Interior Inspection
Exterior Inspection
Post Exterior Inspection
Interior Inspection

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

External Syllabus Support. 1 Static CH-53

Prerequisite. ACAD 0100-0108 or 0200-0207

LAB-1001 2.0 RE,RD,MRE,MRD,SCE,SCD 1 CH-53 (STATIC) A/S

Goal. Practice preflight inspection procedures.

Requirement

Instructor:
Crew Chief, (Crew Chief Instructor preferred)

Discuss:
Component identification/nomenclature
Aircraft systems functionality

Practice:
Before Interior Inspection
Exterior Inspection
Post Exterior Inspection
Interior Inspection

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

External Syllabus Support. 1 Static CH-53

Prerequisite. LAB-1000

LAB-1002 2.0 RE,RD,MRE,MRD,SCE,SCD 1 CH-53 (STATIC) A/S

Goal. Review preflight inspection procedures. At the completion of FAM-1002, PUI shall be proficient in preflight procedures. At completion of FAM-1002, PUI shall turn in FAM-1002 ATF to the Safety and Operations Departments.

Requirement

Instructor:
FRS IP

Demonstrate:
Maintenance Control procedures
Flight Equipment procedures

NATOPS preflight briefing

Discuss:
Preflight planning requirements (Weight and Power, Flight Schedule, ODO brief, Read and Initial Board)
Local SOPs
T&R Manual

Introduce:
Emergency Egress

Review:
Before Interior Inspection
Exterior Inspection
Post Exterior Inspection
Interior Inspection
Component Identification/Nomenclature
Aircraft Systems Functionality

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. LAB-1001

External Syllabus Support. 1 Static CH-53

5. Familiarization (FAM) (1100)

a. Purpose. To develop preliminary flight skills in the CH-53 and become familiar with aircraft characteristics, limitations, and emergency procedures; to develop proficiency in all maneuvers contained in the familiarization stage, and to develop proficiency to conduct safe operations during the day.

b. General. FAM-1110 through FAM-1115 will normally be completed prior to flying higher stage events. Discuss and become thoroughly familiar with all aspects of CRM applicable to familiarization stage maneuvers as described in the appropriate CH-53 NATOPS Flight Manual(s) and Standardization Manual(s).

SFAM-1100 1.0 RE,SCE,RD,MRD,SCD S

Goal. Introduce normal cockpit procedures, start procedures, and shutdown procedures.

Requirement

Introduce:
Pre-start checklist
Post APP start checklist
Starting engines/rotors checklist
Pre-taxi checklist
Cargo ramp and door procedures checklist
Operation of engine trim switches
Cruise checklist
Fuel transfer checklist
Monitoring of instruments (fuel gauges)
Operation of the ICS and radios
Fuel management
Pre-landing checklist
Shutdown checklist

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CBT-0017

External Syllabus Support. WST/APT.

SFAM-1101 1.0 SCD S

Goal. Introduce aircraft emergencies, normal ground and flight procedures. Review start/shutdown procedures.

Requirement

Introduce:
- Aircrew brief
- External fuel tank jettison.
- Cargo ramp/door operation
- Engine start emergencies
- Vertical takeoff to a hover
- Transition to forward flight
- Normal approaches to a hover and normal vertical landing
- Engine compartment fire on the ground
- Single and/or dual engine compartment fires in-flight
- Simultaneous engine compartment fires in-flight
- APP or cabin heater fire
- Fuselage fire
- Fuel dump

Practice:
- Start/shutdown procedures

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CBT-0018, FAM-1100

External Syllabus Support. WST/APT

SFAM-1102 1.0 SCD S

Goal. Introduce engine malfunctions. Practice cockpit and flight procedures, start/shutdown checklist and all previously introduced emergencies.

Requirement

Introduce:
- Blade/pylon fold system switchology
- CH-53 NATOPS brief/CH-53 NATOPS debrief
- Maximum performance takeoff
- Straight-in approach
- Engine restarts during flight
- Crosswind landing
- Single engine failure (hover and takeoff)
- Effects of gross weight on single and/or dual engine performance
- Single and/or dual engine failure at altitude
- Engine shutdown in-flight
- Compressor stall
- Engine power loss
- Engine post-shutdown fire

Practice:
- Cockpit and flight procedures
- Start/shutdown checklist

All previously introduced emergencies

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1101

External Syllabus Support. WST/APT

SFAM-1103 1.0 SCD S

Goal. Introduce running landings and autorotations. Practice aircraft emergencies, previously introduced flight procedures and normal cockpit procedures.

Requirement
Introduce:
- Running takeoff/landing
- Wave-off
- Single and/or dual engine wave-off/landing
- Power recovery autorotation
- High angle of bank maneuvering and the effects of variables (angle of bank, power required, descent rate, gross weight, temperature, density altitude, etc.) on the performance of the aircraft
- Dual engine failure at altitude
- Engine overspeed
- Single and/or dual engine failure (hover/takeoff)
- Nf flex shaft failure

Practice:
- Aircraft emergencies
- Previously introduced flight procedures
- Normal cockpit procedures

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1102

External Syllabus Support. WST/APT

SFAM-1104 1.0 SCD S

Goal. Introduce gearbox malfunctions. Introduce basic CRM concept. Practice previously introduced emergency and flight procedures.

Requirement
Introduce:
- Engine chip detector light
- Control linkage failure
- Power deterioration
- Engine oil pressure high caution light, high oil temperature, engine oil quantity low
- Nose gearbox chip detector light/failure
- Accessory gearbox oil system failure
- Accessory gearbox chip detector light/failure
- Main gearbox oil system failures
- Main gearbox chip locator light/failure
- Power train failures
- Tail rotor drive system failure, tail rotor gearbox or

intermediate gearbox failure, and tail rotor or intermediate gearbox chip detector light

Practice:
Previously introduced emergencies
Flight procedures

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1103

External Syllabus Support. WST/APT

SFAM-1105 1.5 RE,SCE,RD,MRD S

Goal. Introduce communication skills IAW CRM techniques. Practice all ground, flight, and aircraft emergency procedures.

Requirement
Introduce:
Obstacle takeoff and approach
Smoke and fume elimination
AFCS computer malfunctions/mode failures , total AFCS failure
BIM/Blade Pressure caution light (in-flight)
Approach and landing with tail rotor control system failure
Tail rotor tandem servo malfunction
Fuel filter bypass light
Hydraulic fire in main rotor pylon
Use of GPS system
Sender/receiver responsibilities and overcoming communication barriers. Discuss ICS switchology and techniques, visual and standard terminology.

Practice:
Ground, flight, and aircraft emergency procedures.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1104

External Syllabus Support. WST/APT

SFAM-1106 1.0 RE,SCE,RD S

Goal. Conduct Progress Check. Introduce communication skills IAW CRM techniques.

Requirement
Introduce:
Ground resonance procedure
Power settling (vortex ring state)
Settling with power
Dynamic rollover
Electrical fire
Alternating/Direct current system failures
Rotor damper failure
Lightning strike
Most conservative response rule, the two-challenge rule, and task saturation with compound emergencies

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1105

External Syllabus Support. WST/APT.

SFAM-1107 1.0 SCD S NS

Goal. Introduce NS adaptation.

Requirement
Introduce:
- NS set-up/operation
- Cockpit lighting
- Blind cockpit drills
- NS malfunctions
- NS goggle/degoggle procedures
- NS scan techniques
- Basic FAM pattern and approaches utilizing NS
- Emergencies while wearing NS
- NS failure

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. The Night Imaging and Threat Evaluation (NITE) Lab syllabus. CBT-0102

Prerequisites. CBT-0019, FAM-1106

External Syllabus Support. WST/APT

FAM-1110 1.5 SCE 1 CH-53E

Goal. Introduce start, normal ground, and flight procedures including low work and normal approaches.

Requirement
Discuss:
- ARC 210 Operation
- Fuel management
- Fuel dump system/procedures and auxiliary fuel tank jettison system/parameters
- Fuel supply system, fuel transfer system, fuel purge system, and pressure refueling system

Introduce:
- Normal cockpit procedures
- Starting procedures
- Radio procedures
- Taxiing
- Vertical takeoffs and landings
- Transition to forward flight
- Operation of engine trim switches
- Normal approaches to a hover
- Ramp operation
- Shutdown procedures
- Conduct an area familiarization and local course rules flight

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. LAB-1002, FAM-1106

FAM-1111 1.5 1 CH-53E

Goal. Introduce precision hover/low work. Practice start, normal ground, and previously introduced flight procedures.

Requirement
Discuss:
- Engine restart in-flight
- Blade and pylon fold
- Utility hoist procedures
- Effects of Pilot Induced Oscillations (PIO)
- Exhaust gas re-ingestion
- Effects of high AOB maneuvering and subsequent aircraft response
- No 2 engine dual thermal detection system
- No 2 engine over-heat caution light in flight
- Engine start/ignition system
- Hot start, hung start
- AOB limitations
- Emergency shutdown procedures

Demonstrate:
- High AOB maneuvers

Introduce:
- Square patterns/turns on the spot
- Precision (stable) hover
- Air taxi
- Single engine and/or dual engine flight characteristics at altitude

Practice:
- Start procedures
- Normal ground procedures
- Previously introduced flight procedures

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. FAM-1110

FAM-1112 1.5 MRD 1 CH-53

Goal. Introduce engine failure(s) at altitude, running takeoffs and landings, precision approaches.

Requirement
Discuss:
- Engine system/limitations
- Engine overspeed/Nf flex shaft failure
- Compressor stall
- Engine power loss
- Engine high/low oil pressure
- Engine high oil temperature
- Engine chip detector light
- Control linkage failure

Effects of gross weight on single and/or dual engine performance
Engine shutdown in flight/fuel siphoning
Engine restart in flight

Introduce:
Simulated single and/or dual engine failure at altitude
Running takeoffs and landings
Precision approaches to a hover

Practice:
Cockpit procedures
Hover/low work
Previously introduced FAM maneuvers

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1111

FAM-1113 1.5 1 CH-53E

Goal. Introduce no hover landings. Practice previously introduced FAM maneuvers and simulated emergency procedures.

Requirement
Discuss:
The effects of aircraft gross weight on single and/or dual engine performance capability
Single/dual engine wave-off
Fire detection/extinguishing system
Engine compartment fire on the ground
Engine compartment fires in flight
APP or cabin heater fire
Fuselage fire
Hydraulic fire in main rotor pylon
Engine post shutdown fire
Electrical fire
Smoke and fume elimination
Fire during ground refueling

Introduce:
No hover landings
Single and/or dual engine wave-offs
Simulated single and/or dual engine failure during takeoff
Simulated single and/or dual engine approaches and landings (running and to a spot)
Simulated single and/or dual engine failure above 50 feet AGL

Practice:
Previously introduced FAM maneuvers
Simulated emergency procedures

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. FAM-1112

FAM-1114 1.5 MRE,RE,SCE,RD 1 CH-53

Goal. Introduce simulated partial/total AFCS failure. Practice FAM and previously introduced simulated emergency procedures.

Requirement
Discuss:
- AFCS system/functions
- Inner/outer loop
- AFCS servo functions
- AFCS servo hardover
- Longitudinal bias actuator
- FAS functions
- Trim functions
- Desensitizer failure
- AFCS computer malfunctions/mode failures
- Total AFCS failure
- Ground resonance

Introduce:
- Obstacle takeoff, approach
- Partial/total AFCS failure
- Practice autorotations (Refreshers, Modified Refreshers, and Series Conversions only)

Practice:
- Previously introduced FAM maneuvers
- Simulated emergency procedures

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1113

FAM-1115 1.5 1 CH-53E

Goal. Introduce high AOB maneuvers and practice autorotations. Practice all FAM and simulated emergency procedures.

Requirement
Discuss:
- BIM/IBIS blade systems
- BIM/Blade pressure caution light in flight
- Flight control system
- Control couplings
- Damper system/failure
- Primary tandem servos operation/malfunction
- Approach and landing with a tail rotor control system malfunction.

Introduce:
- High AOB maneuvers
- Autorotations with power recovery

Practice:
- All FAM maneuvers
- Simulated emergency procedures

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. FAM-1114

FAM-1116 1.5 MRE,RE,SCE,MRD,RD 1 CH-53

Goal. Practice all FAM maneuvers, and simulated emergency procedures.

Requirement
Discuss:
- Transmission system/limitations
- Chip detection system
- Nose gearbox chip location light
- Nose gearbox failure
- Accessory gearbox oil system failure
- Accessory gearbox chip locator light
- Accessory gearbox failure
- Main gearbox chip locator light
- Main gearbox oil system failure
- Loss of main gearbox lubrication
- Power train failure
- Tail rotor or intermediate gearbox chip detector light
- Tail rotor gearbox or intermediate gearbox failure
- Tail rotor drive system failure
- Pylon unsafe for flight light

Practice:
- All FAM maneuvers
- Simulated emergency procedures

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1115

FAM-1117 1.5 1 CH-53E

Goal. Practice all FAM maneuvers and simulated emergency procedures.

Requirement
Discuss:
- Rotor brake system
- APP
- Hydraulic power supply systems
- Hydraulic power supply system failures
- Utility hydraulic subsystems

Practice:
- All FAM maneuvers
- Simulated emergency procedures

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. FAM-1116

FAM-1118 1.5 RE,SCE,RD 1 CH-53

Goal. Review all FAM maneuvers and simulated emergency procedures.

Requirement
Discuss:
- Ground cushion and ground effect
- Effect of wind on translational lift
- Effect of temperature and pressure altitude on power available
- Power required for flight at various airspeeds (hover to V_{MAX})
- Effects of gross weight, altitude, temperature, turbulence, and wind on power required for hover both in and out of ground effect
- Effects of gross weight, altitude, temperature, and turbulence on blade stall
- Maximum speed level flight with turns for existing ambient conditions
- Conditions leading to power settling and settling with power
- Landing gear system
- Landing gear system failure
- Bearing Monitor System
- Bearing VIB or TEMP DETECT and LIMIT
- BMS fault isolation

Practice:
- All FAM maneuvers
- Simulated emergency procedures

Performance Standards. IAW CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1117

FAM-1119 1.5 1 CH-53E

Goal. Conduct Progress Check.

Requirement
Practice:
- All FAM maneuvers
- Simulated emergency procedures

Performance Standards. Demonstrate proficiency of FAM maneuvers IAW CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. FAM-1118, CH-53E NATOPS open book exam.

FAM-1120 1.5 SCD 1 CH-53D

Goal. Introduce CH-53D specific aircraft performance characteristics and FAM maneuvers.

Requirement
Discuss:
- Engine system/limitations
- Engine overspeed/Nf flex shaft failure
- Compressor stall
- Engine power loss
- Engine high/low oil pressure
- Engine high oil temperature
- Engine chip detector light

Control linkage failure
Effects of gross weight on single engine performance
Engine shutdown in flight/fuel siphoning
Engine restart in flight
Fire detection/extinguishing system
Engine compartment fire on the ground
Engine compartment fires in flight
Engine post shutdown fire
Emergency shutdown procedures
Transmission system/limitations
Chip detection system
Nose gearbox chip location light
Nose gearbox failure
Accessory gearbox oil system failure
Accessory gearbox chip locator light
Accessory gearbox failure
Main gearbox chip locator light
Main gearbox oil system failure
Loss of main gearbox lubrication
Effects of Pilot Induced Oscillations (PIO)
CRM procedures
Local area course rules
Glideslope Checkpoints

Demonstrate:
Autorotations with power recovery

Introduce:
Startup and shutdown procedures
Taxiing
Vertical takeoffs and landings
Transition to forward flight
Normal approaches to hover and no hover landings
Running takeoffs and landings
Precision approaches to hover and no hover landings
Simulated single engine failure at altitude
Conduct an area familiarization and local course rules flight.

Performance Standards. Per CH-53D NATOPS and Standardization Manual.

Prerequisites. LAB-1002, ACAD-0203 FAM 1100-1104. Egress drill (as required).

FAM-1121 2.0 SCD 1 CH-53D

Goal. Introduce CH-53D specific simulated emergency procedures and practice previously introduced FAM maneuvers.

Requirement
Discuss:
Rotor brake system
APP
APP or cabin heater fire
Fuselage fire
Hydraulic fire in main rotor pylon
Electrical fire
Smoke and fume elimination
Fire during ground refueling

Hydraulic power supply systems
Hydraulic power supply system failures
Utility hydraulic subsystems
AFCS system/functions
AFCS servo functions
AFCS servo hardover
Trim functions
AFCS computer malfunctions/mode failures
Total AFCS failure
Ground resonance
Flight control system
Control couplings
Damper system/failure
Primary tandem servos operation/malfunction
Approach and landing with a tail rotor control system malfunction
Tail rotor or intermediate gearbox chip detector light
Tail rotor gearbox or intermediate gearbox failure
Tail rotor drive system failure
Power train failure
Pylon unsafe for flight light
Glideslope Checkpoints

Introduce:
Simulated emergency procedures
Simulated single engine failure during takeoff
Simulated single engine approaches and landings (running and to a spot).
Simulated single engine failure above 50 feet AGL
Autorotations with power recovery
Obstacle takeoff, approach
Partial/total AFCS failure
High AOB maneuvers

Practice:
Previously introduced FAM maneuvers.

Performance Standards. Per CH-53D NATOPS and Standardization Manual.

Prerequisites. FAM-1120

6. Night Familiarization (NFAM) (1200)

a. Purpose. To develop preliminary flight skills in the CH-53 and become familiar with aircraft characteristics, limitations, and emergency procedures; to develop proficiency in all maneuvers contained in the familiarization stage, and to develop proficiency to conduct safe operations during the night.

b. General. Pilots shall conduct Core Skill Introduction Night Systems (NS) phase flights under High Light Level (HLL) ambient conditions with an NS FAM Instructor (NSFI) or NS Instructor (NSI).

FAM-1201 1.5 1 CH-53E NS

Goal. Introduce NS low work and pattern work.

Requirement
Discuss:

Aircraft lighting systems
Electrical failures
Electrical power supply system
Single and multiple generator failure
Single and dual rectifier failure
Minimum aircraft equipment required for night flight
NS operations/failures
Cockpit lighting
Crew coordination
Comfort level
Low altitude emergencies
Inadvertent IMC procedures
Aircraft external lighting
NS visual characteristics and limitations
Scan techniques

Introduce:
Tip path plane awareness
HNVS operation
Use of NS while performing taxi, basic low work, hover, and vertical takeoffs/landings at an unlit field or packed surface

Performance Standards. Per CH-53E NATOPS, FRS Standardization Manual, and MAWTS-1 NVD manual.

Prerequisites. FAM-1200, FAM-1600, the Night Imaging and Threat Evaluation (NITE) Lab syllabus, and based on simulator availability, FAM-1107

FAM-1202	1.5	MRE,RE,SCE,MRD,RD	1 CH-53	NS

Goal. Practice low work, takeoffs/landings and pattern work while using NS.

Requirement
Discuss:
Solar Lunar Almanac Program (SLAP)
Light Interference Filters (LIFS)
Effects of shadowing on NS operations
Effects of atmospheric conditions on NS performance
Blooming/de-gaining
Approach pattern
External aircraft lighting
Spectrum viewed by NS (FLIR/NS)

Practice:
HNVS operation
Use of NS while performing taxi, basic low work, hover, and vertical takeoffs/landings at an unlit field or packed surface

Performance Standards. Per CH-53 NATOPS, Standardization Manual, and MAWTS-1 NVD manual.

Prerequisites. FAM-1201

7. Instruments (INST) (1300)

a. Purpose. To develop proficiency in instrument flight procedures while using all installed navigation aids.

b. General

(1) All instrument stage flights should terminate with an instrument approach, when possible.

(2) Pilots may use the simulator for any instrument flight requirement; however, they may use it for no more than 50 percent of the total instrument syllabus requirements. The simulator will not satisfy the OPNAV night minimums requirement.

c. Crew Requirement. IP/RAC/CC (AO required for NS events).

SINST-1300 1.0 SCD S

Goal. Introduce basic instruments, TACAN approaches, and decision making IAW CRM techniques.

Requirement
Introduce:
- Instrument flight checklist
- Instrument takeoff
- Level speed change
- Standard rate timed turns
- Vertical S-1 pattern
- Oscar pattern
- Turn pattern.
- TACAN approach
- Point-to-point navigation
- Holding
- Decision making in the CH-53 IAW CRM techniques
- Troubleshooting strategies for degraded aircraft systems in IMC

Performance Standards. IAW CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. CBT-0020

External Syllabus Support. WST/APT

SINST-1301 1.0 RE,SCE,RD S

Goal. Introduce partial panel flight, VOR/ADF procedures and adaptability/flexibility per CRM techniques.

Requirement
Introduce:
- Partial panel flight
- VOR/ADF approach
- Holding
- Adaptability/flexibility in the CH-53E per CRM techniques

Discuss:
- Changes in mission from the briefing, crew-member incapacitation, and overcoming personality differences within the cockpit and cabin

Practice:
- TACAN procedures

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. INST-1300

External Syllabus Support. WST/APT

SINST-1302 1.0 RE,SCE S

Goal. Introduce ILS/localizer approaches and mission analysis per CRM techniques. Practice aircraft emergency procedures.

Requirement
Introduce:
- ILS and localizer approaches
- Mission analysis in the CH-53 per CRM techniques

Discuss:
- The three stages of mission analysis, and standardized procedures

Practice:
- TACAN and VOR approaches
- Previously introduced emergency procedures

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. INST-1301.

External Syllabus Support. WST/APT.

SINST-1303 1.0 RD, SCD S

Goal. Introduce unusual attitudes and recovery procedures, PAR, ASR approaches and situational awareness considerations in the CH-53 per CRM techniques. Practice aircraft emergency procedures.

Requirement
Introduce:
- Unusual attitudes and recovery procedures
- PAR and ASR approaches
- Situational awareness considerations in the CH-53 per CRM techniques
- Task fixation during an instrument approach with an emergency or degraded system

Practice:
- Aircraft emergency procedures

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. INST-1302

External Syllabus Support. WST/APT

SINST-1304 1.0 S

Goal. Introduce radio failure, ATC procedures in IMC conditions and leadership principles per CRM techniques.

Requirement
Introduce:
- HF Radio
- IFR departure
- COMM/NAV failure under IMC
- Single and/or dual engine missed approach

IFR canned route (Flight planning)
Leadership principles in the CH-53E per CRM techniques
Command authority, crewmember relationships in the cockpit and cabin, and division of tasks

Performance Standards. Per CH-53E NATOPS, Instrument NATOPS, FLIP publications and FRS Standardization Manual.

Prerequisites. INST-1303.

External Syllabus Support. WST/APT.

INST-1305 2.0 MRE,RE,SCE,MRD,RD 1 CH-53 (N)

Goal. Introduce basic instrument, precision, and non-precision procedures.

Requirement
Discuss:
Approach minimums and helicopter-only approaches
BDHI/course indicator switches
ILS/LOC and LOC back course approaches
Instrument checklist
Inadvertent entry into IMC conditions
Lost plane procedures
Lighting strike
Emergency descent
Use/Failure of AFCS functions in IMC conditions

Introduce:
Time-distance checks
ADF procedures
Operation of the transponder modes
VOR procedures
TACAN procedures
Point-to-point navigation
ILS/LOC procedures
PAR procedures

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. INST-1304.

INST-1306 1.5 RE,RD 1 CH-53 (N)

Goal. Conduct IFR flight to an outlying airfield. Instrument progress check.

Requirement. Plan, file, brief, and fly an IFR flight away from home field.

Discuss:
Range performance charts in the CH-53 NATOPS Manual.

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. INST-1305.

INST-1307 2.0 SCD 1 CH-53D (N)

Goal. Introduce CH-53D basic instrument, TACAN, and PAR

procedures.

Requirement
Discuss:
- Approach minimums and helicopter-only approaches
- Time-distance checks
- Inadvertent entry into IFR conditions
- Lost plane procedures
- Lightning strike
- Emergency descent
- BIM/IBIS blade systems
- BIM/Blade pressure caution light in flight

Introduce:
- Instrument checklist
- Instrument takeoff (ITO)
- Attitude instrument flying
- Standard rate/half standard rate turns
- Recovery from unusual attitudes
- Vertical S-1
- Oscar patterns
- Partial panel
- TACAN procedures
- PAR procedures
- GPS procedures
- Point-to-point navigation
- AFCS failure
- Night Systems (if required)

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. FAM-1120, INST-1300, and INST-1303

8. Navigation (NAV) (1400)

a. Purpose. To navigate without radio navigational aids and identify positions by using charts and maps. Day and NVG navigation training in the aircraft is introduced during the formation (FORM) stage of training

b. Crew Requirement. N/A

NAV-1400 1.0 S

Goal. Introduce use of flight planning software, GPS and HNVS.

Requirement. Utilize flight planning software to develop a route card and load the GPS Mission Data Loader with a minimum of six waypoints.

Discuss:
- GPS set-up, programming, operation, and use

Introduce:
- Use of Global Positioning System (GPS) and HNVS operation

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. CBT-0021.

External Syllabus Support. WST/APT.

9. Formation (FORM) (1500)

a. Purpose. To develop parade and cruise formation principles and techniques.

b. Crew Requirement. 1501: IP/RAC/CC. 1502: IP/RAC/CC/AO.

FORM-1500 1.0 RE,SCE,RD S

Goal. Introduce day formation principles.

Requirement
Discuss:
- Aircraft lighting, closure rate, recovery from unusual attitudes, CRM, and comfort level

Introduce:
- Section takeoffs, cruise principles, crossovers, and section approaches

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CBT-0022

External Syllabus Support. WST/APT

FORM-1501 2.0 MRE,RE,SCE,MRD,RD 2 CH-53

Goal. Introduce parade, cruise formation and section landings. Introduce visual and GPS navigation.

Requirement: As lead, use 1:250,000 and 1:50,000 maps to navigate to a minimum of six terrain features using approved flight planning software. Pilots should conduct this flight between 200 and 500 feet AGL.

Discuss:
- Visual checkpoints for formation position
- Formation considerations
- Parade and Cruise formations
- Cruise turn principles
- Loss of visual contact
- Break-up and rendezvous
- Over-run procedures
- Navigation techniques
- Map preparation
- Checkpoint selection
- Boundaries/limiting features
- Use of flight planning software
- GPS operation/use

Introduce:
- Section takeoffs, parade position, crossovers, breakups, rendezvous, lead changes, landings, cruise formations, and IMC break-up

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisite. NAV-1400, FORM-1500, CAL-1601 if conducted to a CAL site

Range Requirements. Approved CAL/MAL site, if conducted to a

CAL site

FORM-1502 2.0 2 CH-53E NS

Goal. Introduce NS formation procedures and section CAL landings. Practice visual and GPS navigation

Requirement: As lead, use 1:250,000 and 1:50,000 maps to navigate to a minimum of six terrain features using approved flight planning software. Pilots should conduct this flight between 200 and 500 feet AGL.

Discuss:
- Aircraft lighting
- Closure rate
- CRM and comfort level
- NS visual checkpoints for formation position
- Use of the FLIR
- Low level hazards
- Dead reckoning techniques

Introduce:
- Night section takeoffs
- Cruise principles
- Crossover
- Lead changes
- Section landings

Performance Standards. Per CH-53E NATOPS, MAWTS-1 NVD Manual, and FRS Standardization Manual.

Prerequisite. FAM-1202, FORM-1501, CAL-1602 and CAL-1603.

Range Requirements. Approved CAL/MAL site.

10. Confined Area Landings (CAL) (1600)

a. Purpose. Develop takeoff and landing skills in confined areas.

b. Crew Requirement. 1601/1602: IP/RAC/CC. 1603/1604: IP/RAC/CC/AO.

SCAL-1600 1.0 SCD S NS

Goal. Introduce night systems CAL approaches.

Requirement
Discuss:
- Instrument scan requirements
- Crew coordination

Introduce:
- FLIR system, operation and utilization (53E)
- NS HUD operation and utilization (53E)

Performance Standards. Per CH-53 NATOPS, MAWTS-1 NVD Manual and Standardization Manual.

Prerequisite. CBT-0019, FAM-1107.

External Syllabus Support. WST/APT.

CAL-1601 1.5 MRE,RE,SCE,MRD,RD,SCD 1 CH-53

Goal. Practice precision approaches and introduce their application to CALs.

Requirement
Discuss:
- Landing gear system/limitations
- Dynamic rollover
- Slope landing technique/limitations
- Loss of visual reference during landing
- Power settling(Vortex Ring State)
- Settling with power (Pr > Pa)
- Main and tail rotor clearance factors over sloping or uneven terrain
- LZ considerations

Practice:
- Precision approaches to confined areas.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisite. FAM-1111

Range Requirements. Approved CAL/MAL site.

CAL-1602 1.5 SCD 2 CH-53

Goal. Introduce section CAL approaches and landings.

Requirement
Discuss:
- Hazards associated with section CAL landings.
- CRM
- Section Waveoffs

Introduce:
- Day Section CAL approaches and landings

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisite. FORM-1501 and CAL-1601. CAL-1602 may be flown in conjunction with FORM-1501

Range Requirements. Approved CAL/MAL site

CAL-1603 1.5 1 CH-53E NS

Goal. Introduce NS confined area landings.

Requirement
Discuss:
- Precision obstacle approaches
- CRM/comfort level
- Aircraft lighting

Practice:
- Night CAL approaches and takeoffs with NS.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisite. FAM-1202,CAL-1601 and based off of simulator availability SCAL-1600

Range Requirements. Approved CAL/MAL site

CAL-1604 1.5 2 CH-53E NS

Goal. Introduce NS section confined area landings.

Requirement
Discuss:
- Hazards associated with NS section CAL landings
- CRM
- Section Waveoffs

Introduce:
- NVG Section CAL approaches and landings.

Performance Standards. Per CH-53 NATOPS and FRS Standardization Manual.

Prerequisite. FORM-1502, CAL-1602, and CAL-1603.

Range Requirements. Approved CAL/MAL site.

11. External Loads (EXT) (1700)

a. Purpose. To develop skills necessary for external cargo operations.

b. General. Prior to EXT-1700, refer to operational and safety considerations discussed in the appropriate NATOPS Flight Manual, ANTTP series, MCRP 4-23E and Multi-Service Helicopter Sling Load Manual. Discuss and become familiar with all aspects of CRM applicable to external operations as described in the appropriate CH-53 NATOPS Flight Manual.

c. Crew Requirement. IP/RAC/CC/AO.

d. External Syllabus Support. Helicopter Support Team (HST), single and dual point external load(s) as required.

SEXT-1700	2.0	MRE,RE,SCE,RD,SCD	S

Goal. Introduce single point and dual point external cargo operations. Introduce communication skills between pilots and aircrew.

Requirement
Introduce:
- Single and dual point hook checks
- Operational Power Checks
- Single Point Performance checks
- Weight and Power calculations in the zone
- Cargo pickup and release procedures
- CRM consideration for external operations
- Voice signals/standardized terminology
- Emergency Procedures during external operations

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisite. CBT-0024.

External Syllabus Support. WST/APT with Aircrew External Trainer if available.

EXT-1701	1.5	SCE,MRD,RD,SCD	1 CH-53

Goal. Introduce single point external cargo operations.

Requirement
Discuss:
- Precision hover

Flight envelopes with external loads
Weight and balance calculations
Nr requirements
Power settling/settling with power
Operational power checks
Single point performance checks
Single point suspension system/operations
Cargo pickup and delivery procedures
Power available/required considerations
Cargo release modes
Cargo jettison procedures
Hook open advisory light in flight
DSEN failure

Introduce:
Cargo pickup and release procedures
CRM
Voice signals/standardized terminology

Performance Standards. Perform five hookups and releases, or until proficiency is demonstrated per CH-53 NATOPS, MCRP 4-23E and Multi-Service Helicopter Sling Load Manual, and Standardization Manual.

Prerequisite. CAL-1601 and EXT-1700

Range Requirements. Approved CAL/MAL site

External Syllabus Support. HST and single point load

EXT-1702 1.5 SCE,RD 1 CH-53 NS

Goal. Introduce single point external cargo operations utilizing NS.

Requirement
Discuss:
CRM
Comfort level
NS scan techniques
Aircraft emergencies
Cargo jettison procedures
Power requirements
Aircraft lighting
Landing zone markings

Introduce:
External cargo pickup and delivery utilizing NS

Performance Standards. Perform five hookups and releases, or until proficiency is demonstrated per CH-53 NATOPS, MCRP 4-23E and Multi-Service Helicopter Sling Load Manual, and Standardization Manual.

Prerequisite. CAL-1603 and EXT-1701

Range Requirements. CAL/MAL site

External Syllabus Support. HST single point load

EXT-1703 1.5 MRE,RE,SCE 1 CH-53E

Goal. Introduce dual point procedures.

Requirement
Discuss:
Dual point suspension system
Dual point suspension system operations/limitations
CRM
Emergencies encountered during external operations
Forward/Aft hook open advisory light in flight
Pilot induced/assisted oscillations
Cargo jettison
CG load indicator system

Introduce:
External cargo pickup and release procedures utilizing the dual point external system

Performance Standards. Perform 5 hookups and releases, or until proficiency is demonstrated per CH-53E NATOPS, MCRP 4-23E and Multi-Service Helicopter Sling Load Manual, and FRS Standardization Manual.

Prerequisite. EXT-1701

Range Requirements. CAL/MAL site

External Syllabus Support. HST and dual point load

EXT-1704	1.5	RE,SCE	1 CH-53E	NS

Goal. Introduce dual point procedures at night utilizing NS.

Requirement
Discuss:
NS considerations
CRM
Comfort level
Scan techniques
Aircraft emergencies
Cargo jettison procedures
Aircraft lighting
Landing zone markings

Introduce:
External cargo pickup and release procedures utilizing NS.

Performance Standards. Perform 5 hookups and releases or until proficiency is demonstrated per CH-53E NATOPS, MCRP4-23E and Multi-Service Helicopter Sling Load Manual, and FRS Standardization Manual.

Prerequisite. EXT-1702 and EXT-1703

Range Requirements. CAL/MAL site

External Syllabus Support. HST and dual point load

12. Terrain Flight (TERF) (1800)

a. Purpose. To introduce skills necessary to perform TERF maneuvers safely. Emphasize the importance of crew coordination, comfort level, and standard terminology.

b. General

(1) T&R Program Manual requires a designated TERF instructor for all initial TERF flights.

(2) ANTTP 3-22.3-CH53 Tactical Employment contains all maneuver descriptions, and ACAD-2011 explains all maneuvers.

(3) T&R Program Manual establishes all currency requirements/TERF altitude limitations.

(4) The RAC shall complete academic training prior to commencing the TERF flight syllabus.

c. Crew Requirement. IP/RAC/CC/AO.

d. Ground Training. Pilots shall complete ACAD-2011 "ASD TERRAIN Flight."

STERF-1800 1.0 RD,SCD S

Goal. Introduce TERF maneuvers. Demonstrate TERF navigation.

Requirement
Discuss:
- TERF maneuvers
- CRM
- Comfort level
- Reduced reaction time
- Emergency procedures at low altitudes
- Climb-to-cope
- Standardized terminology
- Common mistakes
- Hazard maps
- Currency requirements
- Blade walk-around

Introduce:
- Operational power checks
- Masking and unmasking
- TERF turns
- Rolls, bunts
- Quick stops
- Low level/contour profiles
- Using a 1:50,000 scale map, demonstrate TERF navigation

Performance Standards. Per CH-53 NATOPS, ANTTP 3-22.3-CH53, and Standardization Manual.

Prerequisites. ACAD-2011 (TERF class)

Range Requirements. TERF maneuver area/route and CAL/MAL site

TERF-1801 1.5 RE,SCE,RD,SCD 1 CH-53

Goal. Introduce TERF navigation. Practice TERF maneuvers.

Requirement
Discuss:
- TERF maneuvers
- CRM
- Comfort level
- Reduced reaction time
- Emergency procedures at low altitudes
- Climb-to-cope
- Standardized terminology

Common mistakes
Hazard maps
Currency requirements
Blade walk-around
Common terms
Obstacle clearance
Low altitude emergencies
AOB limits and principles
Aircrew responsibilities

Introduce:
Operational power checks
Masking and unmasking
TERF turns
Rolls, bunts
Quick stops
Low level/contour profiles
Using a 1:50,000 scale map, demonstrate TERF navigation

Performance Standards. Per CH-53 NATOPS, ANTTP 3-22.3-CH53, ANTTP 3-22.5 Tactical Pocket Guide and Standardization Manual.

Range Requirements. TERF maneuver area/route and CAL/MAL site

Prerequisite. CAL-1601 and TERF-1800

13. Review (REV) (1900)

a. Purpose. To demonstrate proficiency in performing duties as a core skill introduction complete copilot per CH-53 NATOPS and appropriate pubs.

b. Crew Requirement. IP/RAC/CC.

c. Ground Training. RACs should complete CH-53 NATOPS open and closed book examination prior to the flight.

SREV-1900 1.5 RE,SCE S

Goal. Review Core Skill Introduction training.

Requirement
Practice:
All FAM stage maneuvers
Instrument stage maneuvers
Confined area landings
External cargo procedures
If possible, formation flight

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual. RAC is responsible for all emergency procedures in the NATOPS Manual.

Prerequisite. FAM-1119.

Range Requirements. CAL/MAL site

REV-1901 1.5 RD,SCD 1 CH-53D

Goal. Review Core Skill Introduction training.

Requirement
Practice:
All FAM stage maneuvers

Instrument stage maneuvers
Confined area landings
External cargo procedures
If possible, formation flight

Performance Standards. Per CH-53 NATOPS and Standardization Manual. RAC is responsible for all emergency procedures in the NATOPS Manual.

Prerequisite. ACAD-0206-0207 for RD and SCD.

Range Requirements. CAL/MAL site.

14. Core Skill Introduction Check (CSIX)

a. Purpose. To demonstrate proficiency in performing the duties as a core skill introduction copilot per CH-53 NATOPS and appropriate pubs.

b. General

(1) The RAC is responsible for all maneuvers and emergency procedures in the Core Skill Introduction phase.

(2) A CH-53 NATOPS qualified instructor shall evaluate this flight.

c. Crew Requirement. IP/RAC/CC.

d. Ground Training. Per the CH-53 NATOPS Flight Manual and OPNAVINST 3710.7, all RACs shall successfully complete an open and closed book test prior to CSIX. Upon completion of this flight, the RAC will be CH-53 NATOPS qualified in model as a Helicopter 2nd Pilot (H2P).

CSIX-1902 2.0 MRE,RE,SCE,MRD,RD,SCD E 1 CH-53

Goal. Evaluate systems knowledge of the CH-53 and the capability to perform maneuvers in the Core Skill Introduction phase, including high AOB maneuvers.

Requirements
Practice:
Evaluate systems knowledge of the CH-53 to include external lift systems
Brief and demonstrate proficiency of all aircraft emergency procedures per the CH-53 NATOPS Flight Manual
Demonstrate proficiency and capability to perform Core Skill Introduction maneuvers, to include takeoffs, approaches, instrument procedures, emergency procedures, CALs, high AOB maneuvers, and landings

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisite. Open and Closed book NATOPS exams

Range Requirements. CAL/MAL site

209. CORE SKILL PHASE (2000)

1. Purpose. To introduce and develop proficiency in the execution of Core Skills required as a pilot within a Marine Heavy Helicopter Squadron (HMH). The Core Skill Phase represents the basic skill sets required to conduct Mission Skills (3000 Phase). These basic functions serve as tactical enablers that allow crews to progress to the more complex Mission Phase.

This phase encompasses a combination of academic and flight events to train the individual pilot to the level required to conduct assigned Mission Skills.

2. General

a. The following events within this phase requires a Basic Instructor Pilot (BIP) for all initial or refresher flights:

(1) FAM-2100 & 2105

(2) FORM-2110

(3) CAL-2210 & 2211

(4) EXT-2400, 2410, 2411, 2441

(5) FCLP-2710 2742

(6) TAC-2910 & 2911

b. All initial and refresher 2000-6000 level simulated events require a uniformed IP with appropriate designations. Any subsequent attempts at that event may be done single piloted.

c. Stages. The following stages are included in the Core Skill Phase of training:

(2000) Familiarization/Instruments (FAM/INST)

(2200) Formation (FORM)

(2200) Confined/Mountainous Area Landings (CAL/MAL)

(2300) Terrain Flight (TERF)

(2400) Externals (EXT)

(2500) Ground Threat Reaction (GTR)

(2600) Helicopter Air to Air Refueling (HAAR)

(2700) Field Carrier Landing Practice (FCLP)

(2800) Aerial Gunnery (AG)

(2900) Tactics (TAC)

(2XXX) NS HLL (HLL) (Contained within other stages)

(2XXX) NS LLL (LLL) (Contained within other stages)

d. Conditions. Within the stages all training codes are further broken down according to ambient conditions.

(XX00) Sim

(XX10) Daylight

(XX20) High Light Level

(XX30) Low Light Level

(XX40) Can be done High or Low Light Level

3. Ground/Academic Training

a. Purpose. Within the Core Skill Phase the required academic syllabus shall be completed in accordance with this Manual and the MAWTS-1 CH-53 Course Catalog.

b. The Core Skill academic/ground training shall be complete IAW the POI requirements and prerequisites and IAW paragraph 206 of this manual. Upon completion, the PUI shall report to the PTO or designated representative(s), who will then manually update the training code in MSHARP and log the academic/ground training event in section 3, Aircrew Ground School Training of the APR, using the format listed in Enclosure 1 of this document.

c. 2000-6000 classes are located at the MAWTS-1 NIPR website under ASD, CH-53, T&R:

https://www.intranet.tecom.usmc.mil/sites/mawts1/default.aspx

d. SIPR 2000-6000 classes are located at the MAWTS-1 SIPR website under ASD, CH-53, T&R:

http://www.mawts1.usmc.smil.mil/

CORE SKILL PHASE (2000-2999)

FAM STAGE

ACAD-2000 (U) CH-53 GPS
ACAD-2001 (U) ARC-210/HAVEQUICK/SINCGARS (*)
ACAD-2002 (U) AN/AYK-28
ACAD-2003 (U) CH-53 INTERNAL CARGO OPERATIONS
ACAD-2004 (S) CH-53 AAR/ALE-47 (*)
ACAD-2005 (U) CH-53 TACFORM
ACAD-2006 (U) CH-53 PFPS TECHNIQUES

CAL STAGE

ACAD-2007 (U) DESERT OPERATIONS (*)
ACAD-2008 (U) MOUNTAIN OPERATIONS (*)
ACAD-2009 (U) COMBAT AIRCREW COORDINATION
ACAD-2010 (U) HUD

TERF STAGE

ACAD-2011 (U) ASD TERRAIN FLIGHT
ACAD-2012 (S) CH-53 APR-39 (*)
ACAD-2013 (S) SURFACE TO AIR THREAT TO THE MAGTF

EXT STAGE

ACAD-2014 (U) HEAVY LIFT OPERATIONS (*)
ACAD-2015 (U) ASSAULT SUPPORT TO ARTILLERY

GTR STAGE

ACAD-2016 (U) CH-53 DM/GTR I
ACAD-2017 (S) IR SAM THREAT TO ASSAULT SUPPORT (*)
ACAD-2018 (S) CH-53 ALQ-157(*)
ACAD-2019 (S) AAQ-24(*)
ACAD-2020 (S) AAA THREAT TO ASSAULT SUPPORT
ACAD-2021 (S) EVASIVE MANEUVERS

HAAR STAGE

ACAD-2022 (U) HAAR (*)

AG STAGE

ACAD-2023 (U) CH-53 WEAPONS SYSTEMS AND TRAINING
ACAD-2024 (U) WEAPONS EMPLOYMENT TECHNIQUES
ACAD-2025 (U) INTRO TO LASER SYSTEMS AND SAFETY
ACAD-2026 (U) FSCMS (*)

TAC STAGE

ACAD-2027 (U) OBJECTIVE AREA PLANNING (*)
ACAD-2028 (S) ROE
ACAD-2029 (U) EXECUTION CHECKLIST
ACAD-2030 (U) MISSION ANALYSIS (*)

HLL STAGE

ACAD-2031 (U) ASSAULT NVG PREFLIGHT AND ADJUSTMENT PROCEDURES
ACAD-2032 (U) NVG SYSTEMS AND IMAGE CHARACTERISTICS
ACAD-2033 (U) THE NIGHT ENVIRONMENT
ACAD-2034 (U) MISPERCEPTIONS AND ILLUSIONS
ACAD-2035 (U) NIGHT ROUTE PLANNING CONSIDERATIONS
ACAD-2036 (U) NIGHT OPERATIONS AND PLANNING AIDS

LLL STAGE

ACAD-2037 (U) HUMAN FACTORS

ACAD-2038 (U) FLIR TRAINING COURSE
ACAD-2039 (U) CH-53 HNVS FLIR
ACAD-2040 (S) ASSAULT SUPPORT ESCORT TACTICS
ACAD-2041 (U) BATTLEFIELD ILLUMINATION AND FW ITG
*Denotes annual requirement

4. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Core Skill Phase.

Academic: See event
Flight: CSIX-1902
Designation/Qualification: H2P

5. Familiarization/Formation/Instruments (FAM/FORM/INST) (2100)

a. Purpose. To review familiarization, formation, navigation and instrument procedures in the daytime environment.

b. General

(1) Pilots will find familiarization, formations and maneuver descriptions in the NATOPS, Standardization Manual and ANTTP 3-22.3 CH-53.

(2) The NATOPS Instrument Flight Manual defines basic instrument procedures. All instrument stage flights should terminate with an instrument approach when possible.

(3) BIP required for all initial or refresher flights.

c. Crew Requirement. FAM/INST-2100: P/P. DAY HUD/FAM/CAL: P/P. FAM/INST-2105: P/P/CC/AO FORM 2110: P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, chalk talks, and lectures which shall completed IAW the FAM/FORM/INST event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the familiarization/formation/instrument stage:

Academic: N/A
Flight: CSIX-1902
Designation/Qualification: H2P

SFAM-2100 1.5 90 B,R WST/APT S E (N)

Goal. Review normal, emergency, and instrument procedures. This event fulfills the NAVMC 3500.14 Aviation T&R Program manual Chapter 2 NATOPS quarterly emergency procedure event.

Requirements
Discuss:
- Basic FAM maneuvers
- Emergency procedures
- Operating limitations
- Basic instrument procedures
- Precision and non-precision approaches
- If flown at night, discuss night lighting and use, night scan, and fixation

Review:
- Basic FAM maneuvers
- Emergency procedures
- Operating limitations

Basic instrument procedures
Precision and non-precision approaches

Performance Standards. Per CH-53 NATOPS, Standardization and Instrument Flight Manual.

External Syllabus Support. WST/APT

Prerequisites. CSIX-1902

SFAM-2101 1.5 * B,RE,SCE 1 CH-53E/WST/APT S/A D

Goal. Introduce and develop proficiency ANVIS-24 day (HUD).

Requirement
Instructor:
BIP required for initial flights or refreshers

Discuss:
Same as FAM/INST-2100
CRM utilizing ANVIS-24 day (HUD)
ANVIS-24 Heads-Up Display Operation
Limitations
Switchology
Functionality/Image
HNVS

Introduce:
Same as FAM/INST-2100
ANVIS-24 (HUD)
Low Work with HUD
Pattern work with HUD

Review:
Same as FAM/INST-2100
Low work
Pattern work CAL/MAL
CAL-2101 and HLL-2220

Performance Standards. Same as FAM/INST-2100.

Prerequisite. Same as FAM/INST-2100

Range Requirements. CAL/MAL site

FAM-2105 1.5 365 B,R 1 CH-53 A (N)

Goal. Review normal, emergency, and instrument procedures.

Requirements
Discuss:
Same as FAM/INST-2100

Review: Same as FAM/INST-2100.

Performance Standards. Same as FAM/INST-2100.

Prerequisites. FAM-2100

FORM-2110 1.5 365 B,R 2 CH-53 A D

Goal. Conduct day formation and introduce tactical formation maneuvering.

Requirements
Discuss:

CRM
Comfort level
Closure rates

Formation maneuvers; Break turns, center turns, pinch/dig, cover, tac turns, in-place turns, split turns, and cross turns
Combat spread, combat cruise, and parade positions
Cruise Turn principles
Recovery from unusual attitudes
Loss of visual contact
Lost communications
Inadvertent IMC procedures
High density altitude
High AOB turns/aerodynamics performance
Inter- and intra-aircraft communications
Lead changes; include EMCON lead change

Introduce:
Inadvertent IMC breakup and rendezvous
Break turns, center turns, pinch/dig, cover, tac turns, in-place turns, split turns, and cross turns
Combat spread and combat cruise formations

Review:
Parade position
Cruise principles
Crossovers
Full COMM and no COMM lead changes

Performance Standards. Successfully execute all TACFORM maneuvers as lead and wingman IAW ANTTP 3-22.3-CH53. Successfully execute inadvertent IMC breakup and rendezvous IAW ASTACSOP.

Prerequisite. ACAD-2005, FAM-2105

6. Confined/Mountainous Area Landings (CAL/MAL) (2200)

a. Purpose. To conduct takeoffs and landings in confined/mountainous areas in the daytime environment.

b. General

(1) Pilots may find a description of these maneuvers in the CH-53 NATOPS, Standardization Manual and ANTTP 3-22.3–CH53.

(2) BIP required for all initial or refresher flights.

c. Crew Requirement. CAL-2210-2112: P/P/CC.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the event descriptions in the Confined/Mountainous Area Landing stage.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Confined/Mountainous Area Landing stage:

Academic: N/A

Flight: FAM-2105

Designation/Qualification: H2P

CAL-2210 1.5 365 B,R 1 CH-53 A D

Goal. Conduct single-ship confined area approaches, landings, and departures and introduce tactical approaches to confined areas/mountainous terrain.

Requirements
Discuss:
- CRM
- Dynamic rollover
- Crosswind approaches
- Limitations on landing on unprepared and uneven surfaces
- Power settling
- Settling with power
- Low altitude emergencies
- Loss of visual reference during landing and takeoff
- Engine emergencies
- Obstacle clearance
- High gross weight takeoffs/landings
- Maneuvering at high gross weight/density altitude (GW/DA)
- High AOB turns/aerodynamic performance
- HNVS capabilities and limitations
- LZ Diagram briefing and planning considerations

Introduce:
- Crosswind approaches
- Loss of visual reference during landing and takeoff
- Obstacle takeoffs and approaches
- High gross weight takeoffs/landings
- LZ Diagrams
- Landing and departures to/from a CAL/MAL site

Review:
- Normal approaches
- Precision approaches
- Hover and no hover landings
- Low altitude emergencies

Performance Standards. Pilot shall fly pattern within 50’ and 10 kts of briefed altitude/airspeed. Land within 2 rotors of designated landing point. Conduct a minimum of 5 landings which shall consist of a precision approach, a normal approach, a hover and a no hover landing, and a max gross weight takeoff and landing. Simulated high GW takeoffs and landings power shall be limited to 5 percent above 10’ hover power. Maintain safe obstacle clearance.

Prerequisites. FAM/INST-2105

Range Requirements. CAL/MAL site

CAL-2211 1.5 365 B,R,SC 2 CH-53 A D

Goal. Conduct section confined area approaches, landings, and departures and introduce tactical approaches to confined areas/mountainous terrain.

Requirements
Discuss:
- CRM
- Obstacle clearance
- Full COMM and no COMM lead changes

Tactical formations
Reduced visibility section landings
Cruise turn principles (radius of turn)
Cross cockpit landings

Review:
FORM-2110 and CAL-2210
LZ diagrams, planning and briefing considerations

Performance Standards. Pilot shall fly pattern within 50' and 10 kts of briefed altitude/airspeed. Land within 2 rotors of designated landing point (lead) and maintain section integrity during approach and landing (wingman). Conduct a minimum of 5 landings as lead and 5 landings as wingman. Maintain safe obstacle clearance.

Prerequisites. FORM-2110 and CAL-2210

Range Requirements. CAL/MAL site.

7. Terrain Flight (TERF) (2300)

a. Purpose. To conduct TERF maneuvers, navigation, approaches and section maneuvering in the daytime TERF environment.

b. General

(1) TERF rules of conduct are IAW T&R Program Manual and local SOPs. A description of all TERF maneuvers can be found in ANTTP 3-22.3-CH53.

(2) A PUI is TERF qualified when the following flights have been completed: ACAD-2011-2013, TERF-2310 and TERF-2311.

(3) TERFI is required for all initial, refreshers or if not TERR qualified.

c. Crew Requirement. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be IAW the Terrain Flight stage event descriptions.

e. The following events/designations are prerequisites prior to the commencement of the Terrain Flight stage:

Academic: ACAD-2011

Flight: FAM-2105

Designation/Qualification: H2P

TERF-2310 1.5 365 B 1 CH-53 A D

Goal. Conduct single ship TERF maneuvers and navigation.

Requirements
Instructor: TERFI required for initial flights, refreshers or if not TERF qualified

Discuss:
TERF profiles and maneuvers IAW ANTTP 3-22.3-CH53
TERF rules of conduct IAW T&R Program Manual and local SOPs
Operational power checks
Comfort levels
CRM
Common terminology
Route and checkpoint selection

Route planning tools (N-PFPS)
Orientation techniques
Map preparation
Maneuvering at low altitude and high gross weight/high density altitude
High AOB turns/aerodynamic performance
Low altitude emergencies
Obstacle clearance
Aircraft navigation system

Introduce:
Plan and brief a TERF route
Masking/unmasking
Quick stop
TERF turn and roll
Bunts
Low level and contour profiles
Tactical approaches
Operational Power Checks (OPCs)
Single Point Performance Checks (SPPCs)

Performance Standards. Understand OPC and SPPC procedures IAW CH-53 NATOPS. Safely control aircraft in the TERF environment. Remain oriented IAW AS TACSOP Magellan criteria while navigating to a minimum of 6 checkpoints while using 1:250,000 and 1:50,000 scale maps at or below 200' AGL. To the maximum extent possible route should be a minimum of 50 nm. Demonstrate correct procedure and usage of each TERF maneuver and approach. Demonstrate proficiency with aircraft navigation systems. Conduct at least 1 full COMM and 1 no COMM lead change.

Prerequisites. ACAD-2011, FAM-2105

Range Requirements. Approved TERF maneuver area/route

TERF-2311 1.5 365 B,R,SC E 2 CH-53 A D

Goal. Conduct section TERF maneuvers and navigation.

Requirements
Instructor: TERFI required for initial flights, refreshers or if not TERF qualified

Discuss:
Same items as in TERF-2310, as it applies to section TERF concepts
Tactical flight considerations per ANTTP 3-22.3-CH53
Tactical formation maneuvers in a TERF environment per ANTTP 3-22.3-CH53

Review:
FORM-2110 and TERF-2310

Performance Standards. Same as TERF-2310 and incorporate tactical formation maneuvering in the navigation of the route. Perform 1 full COMM and 1 no COMM lead change.

Prerequisites. FORM-2110 and TERF-2310.

Range Requirements. Approved TERF maneuver area/route.

8. External Loads (EXT)(2400)

a. Purpose. To develop skills necessary for operating with external loads in all ambient conditions and flight regimes.

b. **Ge**neral

(1) Review operational and safety considerations discussed in the appropriate NATOPS Flight Manual, ANTTP series and MCRP 4-11.3E and Multi-Service Helicopter Sling Load Manual.

(2) BIP required for EXT-2400, 2410-11, and 2441 initial or refresher flights.

(3) NSI required for EXT-2420, 2421, 2430 and 2441 (if conducted at night) initial, refresher or when not NS qualified in light level event is conducted.

c. Crew Requirement. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the External stage event descriptions.

e. The following events/designations are prerequisites prior to the commencement of the External stage:

Academic: ACAD-2014

Flight: CSIX-1902 for sims or FAM-2210 for flights

Designation/Qualification: H2P

SEXT-2400 1.5 * B,R WST/APT S D

Goal. Conduct heavy external lift operations.

Requirements
Discuss: Same as EXT-2410

Introduce:
Techniques for heavy external lift operations
Emergency procedures during external operations

Performance Standards. Demonstrate a working knowledge of MSHSL Manual WRT basic equipment rigging procedures, load inspection, and airspeeds. Execute 5 pickups and deliveries(or demonstrate proficiency) as defined by the ability to fly within 50′ and 10 kts of briefed altitude and airspeed, and deliver load within 5 meters of intended point of delivery while maintaining +/- 10 degrees of assigned heading. Flight should be conducted while operating in conditions approaching aircraft maximum gross weight or a performance limit, within the boundaries of existing safety considerations. Demonstrate the ability to plan and compute power requirements based on weight and power, OPCs, SPPCs (if required) and in zone power computations using actual ambient conditions.

Prerequisites. CSIX-1902, ACAD-2014

External Syllabus Support. WST/APT

EXT-2410 1.5 365 B,RD,SC 1 CH-53 A D

Goal. Conduct single point external operations.

Requirement
Discuss:
- CRM
- Comfort level
- Preflight planning to include power computations, weight and balance considerations, Operational Power Checks, and Single Point Performance Checks
- External load information/characteristics
- Hook preflight/Hook checks
- Fuel Dump procedures/Aux tank jettison
- Form F
- Power settling
- Emergency procedures during external operations
- Cargo jettison procedures
- Switchology
- Inadvertent hook release
- Pilot Induced Oscillations (PIO)
- HST operation and safety brief
- Wave-off with the load
- Reduced visibility conditions
- Precision approach techniques

Introduce:
- Single point system preflight
- Single point external operations to a confined area
- External lift procedures
- In-flight weight and power computations
- Operational Power Checks (OPCs)
- Single Point Performance Checks (SPPCs)
- In-zone weight and power computations

Performance Standards. Demonstrate a working knowledge of MSHSL Manual WRT basic equipment rigging procedures, load inspection, and airspeeds. Execute 5 pickups and deliveries or demonstrate proficiency as defined by the ability to fly within 50’ and 10 kts of briefed altitude and airspeed, and deliver load within 5 meters of intended point of delivery while maintaining +/- 10 degrees of assigned heading. Demonstrate the ability to plan and compute power requirements based on weight and power, OPCs, SPPCs (if required) and in zone power computations using actual ambient conditions.

Prerequisites. ACAD-2014, CAL-2210

Range Requirements. Approved CAL/MAL site.

External Syllabus Support. HST, single point loads.

EXT-2411 1.5 365 B,RE,SCE 1 CH-53E A D

Goal. Conduct dual point external operations (53E).

Requirements
Discuss: Same as EXT-2410.

Introduce:
- Dual point system preflight
- Dual point external operations to a confined area
- External lift procedures
- In-flight weight and power computations

Operational Power Checks (OPCs)
Single Point Performance Checks (SPPCs)
In-zone weight and power computations

Performance Standards. Same as EXT-2410.

Prerequisites. ACAD-2014, CAL-2210

Range Requirements. Approved CAL/MAL site

External Syllabus Support. HST, dual point load (53E)

EXT-2420 1.5 180 B,RD,SC 1 CH-53 A NS

Goal. Conduct NS HLL single point external operations.

Requirements
Instructor: NSI required for initial flights, refresher or when not NS qualified in HLL conditions.

Discuss:
Same as HLL-2220 and EXT-2410

Introduce:
NS HLL single point externals to a confined area

Review:
EXT-2410 and HLL-2220

Performance Standards. Same as EXT-2410.

Prerequisites. HLL-2220 and EXT-2410

Range Requirements. Approved CAL/MAL site

External Syllabus Support. HST, single point load

EXT-2421 1.5 180 B,RE,SCE 1 CH-53E A NS

Goal. Conduct NS HLL dual point externals (53E).

Requirements
Instructor: NSI required for initial flights, refresher or when not NS qualified in HLL conditions.

Discuss: Same as EXT-2220 and EXT-2411

Introduce: NS HLL dual point externals to a confined area

Review: Same as EXT-2220 and EXT-2411

Performance Standards. Same as EXT-2411.

Prerequisite. HLL-2220 and EXT-2411

Range Requirements. CAL/MAL site
External Syllabus Support. HST, dual point load

EXT-2430 1.5 180 B,R,SC 1 CH-53 A NS

Goal. Conduct LLL NS external operations, dual point preferred.

Requirements
Instructor: NSI required for initial flights, refresher or when not NS qualified in LLL conditions.

Discuss:

Same as EXT-2420 (single point) and EXT-2421 (dual point)

Introduce:
LLL NS externals

Review:
EXT-2420 (single point) and EXT-2421 (dual point)

Performance Standards. Execute 5 pickups and deliveries or demonstrate proficiency as defined by the ability to fly within 50' and 10 kts of briefed altitude and airspeed, and deliver load within 5 meters of intended point of delivery and +/- 10 degrees of assigned heading.

Prerequisites. NSQ-HLL, EXT-2420 and 2421, CAL-2230

Range Requirements. CAL/MAL site

External Syllabus Support. HST and single or dual point load

EXT-2441 1.5 365 B,R 1 CH-53 A (NS)

Goal. Conduct heavy external lift operations.

Requirements
Discuss:
Same as EXT-2410
Techniques for heavy external lift operations
Minimum power margin based on operating environment

Introduce:
Techniques for heavy external lift operations
Emergency procedures during external operations

Review:
EXT-2410

Performance Standards. Same as EXT-2400.

Prerequisites. EXT-2400, EXT-2410 (for single point operations) or EXT-2411 (for dual point operations)

If conducted under HLL conditions: HLL-2420 (for single point operations) or EXT-HLL-2421 (for dual point operations). If conducted under LLL conditions: LLL-2430.

Range Requirements. CAL/MAL site

External Syllabus Support. HST and single or dual point load

9. Ground Threat Reaction (GTR) (2500)

a. Purpose. To introduce and develop proficiency in using Aircraft Survivability Equipment (ASE), tactics and on-board weapons systems to evade ground-to-air threats.

b. General

(1) Initial GTR-2500 and 2540 shall be conducted in daytime conditions.

(2) WTI or DMI is required for initial flights or refreshers.

(3) GTR events shall be flown with operational ASE, door installed at a minimum (rounds and expendables optional), whenever practical.

c. Crew Requirement. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the GTR stage event descriptions.

e. The following events/designations are prerequisites prior to the commencement of the Ground Threat Reaction stage:

Academic: ACAD-2016, MAWTS-1 GTR Program Guide

Flight: TERF-2311

Designation/Qualification: H2P

SGTR-2500 1.5 * B +2 WST/APT TEN + S (NS)

Goal. Introduce ground threat reactions and ASE.

Requirements
Instructor: WTI or DMI required for initial flights

Discuss:
- Operation of the ALE-47, APR-39, AAQ-24, ALQ-157, and AAR-47
- The strengths and weaknesses of each ASE system versus ground-to-air threats
- Backplate settings
- Magazine IDs
- MDF and OFP
- CRM
- Tactical EW/IR countermeasures
- TACFORM
- Tactical maneuvering to counter surface to air threat
- Inter- and intra-aircraft communications and standard terminology
- Threat identification and rules of engagement
- 5 axioms of survival
- High, medium and low altitude tactics

Introduce:
- Search, acquisition, track, and missile alert signals of all applicable threat systems on APR-39 and AAR-47
- Tactical maneuvering and ASE employment to counter the threat
- Inter- and intra-aircraft communications and standard terminology
- High and medium altitude break maneuvers

Performance Standards. Effectively maneuver aircraft against various ground-based threats. Utilize standard terminology in inter- and intra-aircraft communications. Demonstrate working knowledge of ASE. Execution of at least 1 line number should be accomplished using high or medium altitude tactics.

Prerequisites. 2016, 2311

External Syllabus Support. WST/APT with operable ASE

GTR-2540 1.5 365 B,R 2 CH-53 A (NS)

Goal. Conduct ground threat reactions and ASE familiarization.

Requirements
Instructor: WTI or DMI required for initial flights,

refreshers or when not NS qualified in the light level event is conducted.

Discuss:
- Operation of the ALE-47, ALQ-157, AAQ-24 and AAR-47
- The strengths and weaknesses of each ASE system versus non-radar ground-based threats
- Backplate settings
- Magazine IDs
- MDF AND OFP
- CRM
- IR countermeasures
- Tactical maneuvering to counter surface to air threat
- Inter- and intra-aircraft communications and standard terminology
- Threat identification and rules of engagement
- 5 axioms of survival
- High, medium and low altitude tactics

Introduce:
- Tactical maneuvering and ASE employment to counter the threat
- Inter- and intra-aircraft communications and standard terminology

Review:
- GTR-2500
- TACFORM maneuvering
- TERF

Performance Standards. Effectively maneuver aircraft against various non-radar ground-based threats. Utilize standard terminology in inter- and intra-aircraft communications. Demonstrate working knowledge of ASE. Execution of at least 1 line number should be accomplished using high or medium altitude tactics.

Prerequisites. TERF-2311 and GTR-2500. If flown under HLL conditions, TERF-2321. If flown under LLL conditions, NSQ-HLL, TERF-2331. AG-2810 (if .50 cal to be employed)

Ordnance. 60 flares

Range Requirements. Live Fire Range (as required), Expendable capable range. Approved TERF maneuver area/route

External Syllabus Support. Ground-based non-radar threat simulators (e.g., Smokey SAMs, AAR-47 stimulator, handheld pyrotechnics, target lights).

10. Helicopter Air to Air Refueling (HAAR) (2600) (CH-53E)

a. Purpose. To introduce the HAAR.

b. General

(1) KC-130 support required for all HAAR training evolutions.

(2) Discuss and become thoroughly familiar with all HAAR procedures and aspects of CRM as described in the CH-53E NATOPS Manual, ANTTP 3-22.3 CH-53 and the ATP-56B.

(3) ARI required for initial flights and refreshers.

(4) ARI must be an NSI for HAAR-2640 if PUI is not NSQ for the appropriate light level.

(5) Successful completion of each initial or refresher flight requires a minimum of 3 contacts with demonstrated proficiency and movement to the refueling position. The ARI shall ensure PUI's ATF is annotated with seat, hose position and number of contacts for each flight.

c. Crew Requirement. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW Helicopter Air to Air Refueling stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Helicopter Air to Air Refueling stage:

Academic: ACAD-2022

Flight: FAM-2105

Designation/Qualification: H2P

SHAAR-2600 1.5 * B,SCE 1 WST/APT S D

Goal. Conduct day HAAR.

Requirements
Instructor: ARI required for initial flights.

Discuss:
- ATP-56B
- CRM
- Comfort level
- Rendezvous procedures, both VMC and IMC
- Voice procedures
- Join-up procedures
- Airspeeds/altitudes
- Crossovers
- Hose response/markings
- Inadvertent disconnects
- HAAR emergencies
- Control inputs and tip path awareness
- Blade stall
- NATOPS HAAR envelope chart

Introduce:
- Rendezvous/join-up
- Observation/astern/contact/refuel/disconnect positions
- Aircraft movement around the tanker
- Post HAAR procedures

Performance Standards. Demonstrate the ability to perform a successful join-up and movement to the observation position. Movement to a stable astern, refueling and disconnect position.

Prerequisite. ACAD-2022, 2105

External Syllabus Support. WST/APT

SHAAR-2601 1.5 * B,SCE WST/APT S NS

Goal. Conduct NS HAAR.

Requirements
Instructor:
ARI is required for initial flights. NSI/ARI required if not NS qualified in the light level event is conducted.

Discuss:
Same as HAAR-2600
Night fixation and scan techniques
NS failures
Inadvertent IMC
Vertigo/disorientation
Night HAAR lighting
NS/HNVS considerations
Light Level Planning considerations
Night movement around tanker
Multiple receiver conduct at night
Closure rates
Depth perception
Receiver/tanker lighting
Visual illusions
Inadvertent IMC
EMCON visual signals
NS emergencies

Introduce:
NS helicopter air to air refueling.

Review:
HAAR-2600.

Performance Standards. Demonstrate the ability to perform a successful join-up and movement to the observation position. Movement to a stable astern, refueling and disconnect position.

Prerequisite. HAAR-2600

External Syllabus Support. WST/APT

HAAR-2610 1.5 * B,SCE 1 CH-53E A D

Goal. Conduct day HAAR, left hose preferred.

Requirements
Instructor:
ARI required for initial flights.

Discuss: Same as HAAR-2600
Review: HAAR-2600

Performance Standards. Demonstrate the ability to perform a successful join-up and movement to the observation position; movement to a stable astern, refueling and disconnect position. Initial qualification shall be performed right seat, left hose is preferred.

Prerequisite. FAM-2110, HAAR-2600

Range Requirements. Special use airspace

External Syllabus Support. 1 KC-130 tanker

HAAR-2611 1.5 210 B,RE,SCE 1 CH-53E A D

Goal. Conduct day HAAR, left and right hose preferred.

Requirements
Instructor:
ARI required for initial flights and refreshers

Discuss:
Same as HAAR-2600
Types of tanker rendezvous (per ATP-56B)

Introduce:
Refueling from both sides of the tanker if available
No COMM procedures

Review: HAAR-2610

Performance Standards. Same as AR-2610. Demonstrate the ability to perform all 5 positions from right seat, both left and right hose (if available).

Prerequisite. HAAR-2610

Range Requirements. Special use airspace

External Syllabus Support. 1 KC-130 tanker.

HAAR-2640 1.5 210 B,RE,SCE 1 CH-53E A NS

Goal. Conduct night HAAR with NS.

Requirements
Instructor:
ARI required for initial flights and refreshers. NSI/ARI is required if not NS qualified in light level event is conducted.

Discuss: Same as HAAR-2601

Introduce: NS HAAR.

Performance Standards. Same as HAAR-2610. For initial qualification, demonstrate the ability to perform all 5 positions from right seat, both left and right hose (if available).

Prerequisites. HAAR-2601 and 2611. If flown under HLL conditions: HLL-2101 and 2120. If flown under LLL conditions: NSQ HLL.

Range Requirements. Special use airspace.

External Syllabus Support. KC-130 tanker.

11. Field Carrier Landing Practice (FCLP) (2700)

a. Purpose. To qualify pilots in dayand NS FCLP operations.

b. General

(1) Discuss and become familiar with all aspects of shipboard operations and CRM applicable to the Field Carrier Landing Practice and Carrier Qualification stage as described in the appropriate NATOPS Flight Manual, NAVMC 3500.14, NWP-42, LHA/LHD NATOPS, and OPNAVINST 3710.7.

(2) Each initial or refresher instructional flight requires a minimum of 5 FCLPs; additional FCLPs as required to demonstrate proficiency. Refer to CH-53E NATOPS, Chapter 8, Shipboard Procedures or CH-53D NATOPS, Chapter 9, Carrier Based Procedures.

(3) Initial Night Systems Field Carrier Landing Practice training shall be accomplished under High Light Level conditions. Requalification and proficiency training may be accomplished under any light level condition. CQ-2742 requires an NSI when not NS qualified in light level event is conducted.

(4) FCLP-2710and FCLP-2742 shall be conducted to a suitable FCLP pad.

c. Crew Requirement. FCLP-2700: P/P. FCLP-2710: P/P/CC. FCLP 2742 P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the Field Carrier Landing Practice stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Field Carrier Landing Practice stage:

Academic: N/A

Flight: N/A

Designation/Qualification: H2P

SFCLP-2700 1.5 * B WST/APT S (N)

Goal. Conduct day and NS simulated shipboard flight operations.

Requirements
Discuss:
- CRM
- Terminology
- Shipboard day and night landing patterns
- Shipboard instrument procedures
- Shipboard emergency procedures
- Blade/pylon fold procedures

Introduce:
- The LHA and LHD day and night VFR landing patterns
- TACAN and CCA approaches in IMC or night conditions

Performance Standards. Conduct all communications with HDC and Tower. Execute proper cockpit switchology. Remain oriented around the landing pattern relative to the BRC. Pilot shall fly pattern within 50’ and 10 kts of briefed altitude/airspeed. Conduct a minimum of 5 landings. Initial qualification shall be performed from the right seat.

External Syllabus Support. WST/APT

FCLP-2710 1.5 365 B,R,SC 1 CH-53 A D

Goal. Conduct day FCLP.

Requirements
Discuss:
- Same as FCLP-2700

Introduce:
- FCLPs

Review:
FCLP-2700

Performance Standards. Conduct all communications with HDC and Tower. Execute proper cockpit switchology. Remain oriented around the landing pattern relative to the BRC. Pilot shall fly pattern within 50’ and 10 kts of briefed altitude/airspeed. Conduct a minimum of 5 landings. Initial qualification shall be performed from the right seat. Conduct a minimum of 2 landings for refresher qualification.

Prerequisite. CAL-2210 and FCLP-2700

Range Requirements. FCLP pad

External Syllabus Support. FCLP pad

FCLP-2742 1.5 365 B,R,SC 1 CH-53 A NS

Goal. Conduct NS FCLPs.

Requirements
Instructor:
NSI required when not NS qualified in light level event is conducted

Discuss:
Same as FCLP-2740
NS landing techniques
NS emergencies

Introduce:
NS FCLP

Performance Standards. Conduct all communications with HDC and Tower. Execute proper cockpit switchology. Remain oriented around the landing pattern relative to the BRC. Pilot shall fly pattern within 50’ and 10 kts of briefed altitude/airspeed. Conduct a minimum of 5 landings. Initial qualification shall be performed from the right seat.

Conduct a minimum of 2 landings for refresher qualification.

Prerequisites. FCLP-2710. If conducted under HLL conditions: CAL-2220. If conducted under LLL conditions: CAL-2230

Range Requirements. FCLP pad

External Syllabus Support. FCLP pad

12. Aerial Gunnery (AG) (2800)

a. Purpose. To introduce AG employment.

b. General. Discuss and become familiar with all aspects of AG as described in NTRP 3-22.4-CH-53, Fundamentals of AG, the ANTTP 3-22.3-CH53, and appropriate NATOPS flight manual.

c. Crew Requirements. P/P/CC/AO/G.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the Aerial Gunnery stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Aerial Gunnery stage:
Academic: N/A
Flight: FAM-2105
Designation/Qualification: H2P

AG-2810 1.5 * B 1 CH-53 A D

Goal. Introduce day weapons employment.

Requirements
Discuss:
- Door gun and tail gun nomenclature, capabilities, and limitations
- Types of ammunition and ballistic effects
- Safety considerations, malfunction procedures, jams, and hung ordnance procedures
- Range procedures and course rules
- Weapons conditions, fire control voice commands, and fire discipline
- Range estimation and target engagement procedures
- Flight profiles and weapons engagement per the ANTTP 3-22.3-CH53
- Platform left, Platform right
- Firing in approach, landing, and departure profiles
- Landing profile with tail gun installed

Introduce:
- Ordnance loading, weapons preflight and operations, and post-flight
- Implementation of fire control voice commands, and fire discipline
- Range estimation and target engagement
- Flight profiles and weapons engagement per the ANTTP 3-22.3-CH53
- Landing profile with tail gun installed

Performance Standards. Demonstrate effective fire control voice commands and fire discipline. Maintain briefed flight profiles IAW ANTTP 3-22.3-CH53. Demonstrate appropriate target engagement IAW ANTTP 3-22.3-CH53.

Prerequisites. FAM-2105

Ordnance. Minimum of 2 .50 Cal (TG optional), and appropriate .50 CAL ammo

Range Requirements. Live fire AG(.50 cal) approved and laser safe range.

AG-2840 1.5 485 B,R 1 CH-53 A NS

Goal. To introduce NS AG employment.

Requirements
Instructor:
- NSI required if not NS qualified in light level event is conducted

Discuss:
- Same as AG-2810
- Night adaptation and muzzle flash awareness

Types of lasers, laser operations and safety per the ANTTP 3-22.3-CH53

Introduce:
Same as AG-2810 in night environment

Prerequisites. AG-2810, if flown HLL, HLL-2101, if flown LLL, HLL-NSQ.

Performance Standards. Same as AG-2810

Ordnance. Minimum of 2 .50 Cal (TG optional) and appropriate .50 CAL ammo

Range Requirements. Live fire AG range (.50 cal). Laser-capable range

13. Tactics (TAC) (2900)

a. Purpose. To plan, brief, execute, and debrief a tactical mission in a low to medium threat environment.

b. General

(1) All Tactics events shall be based on at least one of the Marine Corps Tasks (MCTs) of an HMH squadron. The PUI will log the TAC code and the instructor will log both the TAC code and the Mission Skill Code(s) that applies. Initial TAC codes shall be accomplished as a section or higher; subsequent evolutions (when logged in conjunction with a Mission Skill) may be done single ship, based on the tactical scenario. The total number of aircraft, as specified, may be a dissimilar mix of aviation assets.

(2) The PUI will assist in the planning, briefing, and debriefing of each flight. Pilots shall use the ANTTP 3-22.3-CH53 and CH-53 TPG / ASTACSOP 3-22.5 as source documents for planning and developing proficiency in planning, briefing, execution, and debriefing.

(3) TAC events shall be flown with operational ASE, door guns (as required for the tactical scenario) installed at a minimum (rounds and expendables optional), whenever practical.

c. Crew Requirement. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures chalk talks, and lectures which shall be completed IAW the Tactics stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Tactics stage:
Academic: N/A
Flight: CAL-2211
Designation/Qualification: H2P

TAC-2910 2.0 365 B E 2 CH-53 A D

Goal. Conduct assault support tactical missions in a low threat environment.

Requirements
Discuss:
CRM
Planning based on METT-TSL
Route planning
Objective area planning

Air and ground unit coordination
Marine Aviation Command and Control System (MACCS)
Emissions control (EMCON), Transmission Security (TRANSEC), and Communication Security (COMSEC)
L-Hour (event versus time-driven)
ASE considerations

Introduce:
Tactical mission analysis, planning, briefing, execution, and debriefing in support of assigned tasks
Objective area planning
MACCS
EMCON, TRANSEC, and COMSEC
Mission smartpack

Performance Standards. Plan and brief a tactical mission IAW ASTACSOP and ANTTP 3-22.3-CH53. Demonstrate an understanding of the MACCS. Remain oriented IAW ASTACSOP Magellan criteria while navigating to a minimum of 6 checkpoints while using 1:250,000 and 1:50,000 scale maps. To the maximum extent possible route should be a minimum of 50 nm. Demonstrate proficiency with aircraft navigation systems. Arrive in LZ within ± 30 sec of L-Hour and within 2 rotors of prebriefed landing point.

Prerequisite. CAL-2211, TERF-2311 (if flown in TERF regime), AG-2810 (if .50 cal to be employed)

Ordnance. 2 .50 cals and appropriate rounds, and Chaff and Flare as required, to the max extent possible

Range Requirements. Approved Live fire AG (.50 cal) range. Expendable approved range. CAL/MAL site. Approved TERF maneuver area/route

TAC-2911 2.0 365 B,R E 2 CH-53 A D

Goal. Conduct assault support tactical missions in a medium threat environment.

Requirements
Discuss:
Same as TAC-2920
Flight leadership
ITG considerations
Embark and debark of troops and equipment
Sectors of fire
Escort considerations
Fire Support Coordination considerations
Weapons preflight, control, and employment

Review:
TAC-2910

Performance Standards. Plan and brief a tactical mission IAW ASTACSOP and ANTTP 3-22.3-CH53. Demonstrate an understanding of the MACCS. Remain oriented IAW ASTACSOP Magellan criteria while navigating to a minimum of 6 checkpoints while using 1:250,000 and 1:50,000 scale maps. To the maximum extent possible route should be a minimum of 50 nm. Demonstrate proficiency with aircraft navigation systems. Arrive in LZ

within + 30 sec of L-Hour and within 2 rotors of prebriefed landing point.

Prerequisites. TAC-2910

Ordnance. 2 .50 cals and appropriate rounds, and Chaff and Flare as required, to the max extent possible

Range Requirements. Approved Live fire AG (.50 cal) range. Expendable approved range. CAL/MAL site. Approved TERF maneuver area/route

14. NS High Light Level (HLL)

a. Purpose. To develop skill in the use of NS under light levels greater than or equal to .0022 lux (HLL) as predicted by the Solar Lunar Almanac Prediction (SLAP) data and to qualify the PUI in NS HLL operations.

b. General

(1) Aircrew not NSQ HLL require supervision of an NSI for all events flown with NS.

(2) A PUI is NSQ HLL (qualified to transport troops in HLL conditions) when the following flights have been completed: SHLL-2101, HLL-2120, HLL-2220, HLL-2221, HLL-2320, HLL-2321, and HLL-2920. For Series conversion from the CH-53D to CH-53E or CH-53E to CH-53D the PUI is NSQ HLL (qualified to transport troops in HLL conditions) upon completion of HLL 2321 if the pilot is HLL-2920 proficient. Pilots shall fly the above listed flights, HLL-2420 and HLL-2421 under ambient light conditions greater than or equal to .0022 lux.

(3) Successful completion of ACAD 2031-2036 and HLL-2920 constitutes Night Systems Qualified (NSQ) HLL. For series conversion pilots successful completion of HLL-2321 constitutes Night Systems Qualified (NSQ) HLL. A qualification letter signed by the Squadron Commanding Officer is required, stating the pilot is NSQ HLL to carry troops under HLL conditions. The original letter shall be placed in the pilot's NATOPS jacket, and a copy in the APR with a corresponding logbook entry.

c. Minimum Crew Requirements for all NS HLL flights. P/P/CC/AG/O.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the High Light Level stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the High Light Level stage:

Academic: ACAD-2031
Flight: FAM-2100 for HLL-2101, FORM-2110 for all others
Designation/Qualification: H2P

SHLL-2102 1.5 * B,RE,SCE WST/APT/CH-53 S/A NS

Goal. Introduce the operation and capabilities of aircraft NS.

Requirements
Instructor:
NSI required for initial flights

Discuss:
CRM utilizing NS
NS emergency procedures

Night scan and fixation
Aircraft lighting
NS preflight, donning, and adjustment procedures
ANVIS-7 Heads-Up Display (HUD)
HUD operation, limitations, switchology, functionality/image.
HNVS FLIR AAQ-29 & AAQ-16

Introduce:
CRM utilizing NS
NS emergency procedures
Night scan and fixation
Aircraft lighting
NS preflight, donning, and adjustment procedures
ANVIS-7 Heads-Up Display (HUD)
HUD operation, limitations, switchology, functionality/image
FLIR operation, limitations, switchology, functionality/image.

Performance Standards. Demonstrate basic proficiency, knowledge and the operation of all NS.

Prerequisites. ACAD-2031, FAM-2100.

External Syllabus Support. WST/APT. If WST/APT unavailable, a static aircraft with APP power is acceptable.

HLL-2120 1.5 180 B,R 2 CH-53 A NS

Goal. Conduct NS formation flight and navigation.

Requirements
Instructor:
NSI required for initial flights, refreshers or when not HLL qualified

Discuss:
Aircraft lighting
Night tactical formation
Closure rate
Recovery from unusual attitudes
CRM
Comfort level
NS emergencies
Inadvertent IMC
Dead reckoning techniques
Low level hazards
N-PFPS Mission Planning
HNVS considerations

Introduce:
NS formation flight
NS navigation to include GPS and HNVS checkpoint identification

Review:
Combat Spread/Combat Cruise Formation principles

Performance Standards. Per ANTTP 3-22.3-CH53 and MAWTS-1 NVD Manual. Remain oriented IAW AS TACSOP Magellan criteria while navigating to a minimum of 6 checkpoints while using 1:250,000 and

1:50,000 scale maps. Minimum altitude 200 feet AGL. Conduct at least 1 full COMM and 1 no COMM lead change.

Prerequisites. FORM-2110 and HLL-2101.

HLL-2220 1.5 180 B 1 CH-53 A NS

Goal. Conduct single-ship confined area approaches, landings, and departures and introduce tactical approaches to confined areas/mountainous terrain utilizing NS, emphasizing low work.

Requirements
Instructor:
NSI required for initial flights, refreshers or when not NS HLL qualified

Discuss:
CRM
Landing zone Lighting
Cockpit lighting
Low altitude emergencies
NS failures
Inadvertent IMC procedures
Landings with reduced visibility
Wave-offs
HNVS capabilities and limitations
Electro-Optic Tactical Decision Aid (EOTDA) data
Solar Lunar Almanac Program (SLAP)
Night fixation and scan techniques

Introduce:
NS CALs/MALs
NS low work

Review:
FAM/INST-2101
CAL-2210

Performance Standards. Same as CAL-2210.

Prerequisites. CAL-2210 and HLL-2101.

Range Requirements. CAL/MAL site.

HLL-2221 1.5 180 B,R,SC 2 CH-53 A NS

Goal. Conduct section confined area approaches, landings, and departures and introduce tactical approaches to confined areas/mountainous terrain utilizing NS.

Requirements
Instructor:
NSI required for initial flights, refresher or when not HLL qualified

Discuss:
Same as CAL-2211 and HLL-2220

Introduce:
Section takeoffs, approaches, landings, using NS
Capabilities and effects of all aircraft exterior lighting

Review:
HLL-2120, CAL-2211, and HLL-2220

Performance Standards. Same as CAL-2211.

Prerequisites. CAL-2211, HLL-2120, HLL-2220

Range Requirements. CAL/MAL site

HLL-2320 1.5 180 B 1 CH-53 A NS

Goal. Conduct single ship TERF maneuvers and navigation while using NS.

Requirement
Instructor:
NSI required for initial flights or when not HLL qualified.

Discuss:
Same as TERF-2310.
TERF navigation considerations while using NS.
HNVS capabilities and limitations.
Cockpit lighting.
Low altitude emergencies.
NS failures.
Inadvertent IMC procedures.
Electro-Optic Tactical Decision Aid (EOTDA) data.
Solar Lunar Almanac Program (SLAP).
Night fixation and scan techniques.

Introduce:
TERF navigation flight while using NS.

Review:
TERF-2310
HNVS operations

Performance Standards. Remain oriented IAW RW TACSOP Magellan criteria while navigating to a minimum of 6 checkpoints while using 1:250,000 and 1:50,000 scale maps at or below 200' AGL. To the maximum extent possible route should be a minimum of 50 nm. Demonstrate proficiency with aircraft navigation systems.

Prerequisite. TERF-2310 and HLL-2101.

Range Requirements. Approved TERF maneuver area/route.

HLL-2321 1.5 180 B,R,SC 2 CH-53 A NS

Goal. Conduct section TERF maneuvers and navigation while utilizing NS.

Requirement
Instructor:
NSI required for initial flights, refreshers or when not HLL qualified

Discuss:
Same as TERF-2311 and HLL-2320

Introduce:
Section TERF navigation while utilizing NS

Review:
Same as TERF-2311 and HLL-2320.

Performance Standards. Same as HLL-2320.

Prerequisite. TERF-2311, HLL-2120, HLL-2320.

Range Requirements. Approved TERF maneuver area/route.

HLL-2920 2.0 365 B,R E 2 CH-53 A NS

Goal. Conduct assault support tactical missions in a low threat environment at night.

Requirements
Instructor:
NSI required for initial qualification, refresher or if PUI not proficient

Discuss:
Same as TAC-2910
NS planning, briefing, and execution considerations

Introduce:
NS planning, briefing, and execution considerations

Review:
TAC-2910
HNVS and HUD operations

Performance Standards. Same as TAC-2910.

Prerequisite. HLL-2221 and 2222, HLL-2321, and TAC-2910 (AG-2810 if .50 cal to be employed)

Ordnance. 2 .50 cal (TG and .50 Cal rounds optional reference Chapter 2 of CH-53 T&R)

Range Requirements. Live fire AG(.50 cal) approved and laser safe range. CAL/MAL site. Approved TERF maneuver area/route

15. NS Low Light Level (LLL)

a. Purpose. To develop skill in the use of NS under light levels less than .0022 lux (LLL) as predicted by the Solar Lunar Almanac Prediction (SLAP) data and to qualify the PUI in NS LLL operations.

b. General

(1) Aircrew not NSQ LLL require supervision of an NSI for all events flown with NS.

(2) NS rules of conduct will be per the T&R Program Manual and this T&R; i.e. the PUI may begin the LLL syllabus when designated NSQ HLL and HLL-2420 and HLL-2421 complete. A PUI is NSQ LLL (qualified to transport troops in all light level conditions) at the completion of the following flights: LLL-2230, LLL-2231, LLL-2330, LLL-2331, and LLL-2930. For Series conversion from the CH-53D to CH-53E or CH-53E to CH-53D the PUI is NSQ LLL (qualified to transport troops in LLL conditions) upon completion of LLL 2331 if the pilot is LLL-2930 proficient. Pilots shall fly the above listed flights and EXT-2430 under ambient light conditions of less than .0022 lux.

(3) Successful completion of ACAD-2037-2041, ACPM 8200-8250, and LLL-2930 constitutes Night Systems Qualified (NSQ) LLL. For series conversion pilots successful completion of LLL-2331 constitutes Night Systems Qualified (NSQ) LLL. A qualification letter signed by the Squadron Commanding Officer is required, stating the pilot is NSQ LLL to carry troops under LLL conditions. The original letter shall be placed in the pilot's NATOPS jacket, and a copy in the APR with a corresponding logbook entry.

c. Crew Requirements for all NS LLL flights. P/P/CC/AGO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the Low Light Level stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Low Light Level stage:

Academic: N/A
Flight: NSQ-HLL, HLL-2420, HLL-2421
Designation/Qualification: H2P

LLL-2230 1.5 180 B 1 CH-53 A NS

Goal. Conduct single-ship confined area approaches, landings, and departures and introduce tactical approaches to confined areas/mountainous terrain utilizing NS under LLL conditions.

Requirements
Instructor:
NSI required for initial flights or when not LLL qualified

Discuss:
Same as CAL-2220
LLL planning considerations

Introduce:
Same as CAL-2220 under LLL conditions

Performance Standards. Same as CAL-2220.

Prerequisites. NSQ HLL, HLL-2420, and HLL-2421

Range Requirements. CAL/MAL site

LLL-2231 1.5 180 B,R,SC 2 CH-53 A NS

Goal. Conduct section confined area approaches, landings, and departures and introduce tactical approaches to confined areas/mountainous terrain utilizing NS under LLL conditions.

Requirements
Instructor:
NSI required for initial flights, refreshers or when not LLL qualified

Discuss:
Same as CAL-2221
LLL planning considerations

Introduce:
Same as CAL-2221 under LLL conditions

Performance Standards. Same as HLL-2221.

Prerequisites. LLL-2230.

Range Requirements. CAL/MAL site.

LLL-2330 1.5 180 B 1 CH-53 A NS

Goal. Conduct single ship TERF maneuvers and navigation under LLL conditions.

Requirement

Instructor:
NSI required for initial flights or when not LLL qualified

Discuss:
Same as HLL-2320
LLL planning considerations

Introduce:
Same as HLL-2320 under LLL conditions

Performance Standards. Same as HLL-2320.

Prerequisites. NSQ HLL, HLL-2420 and 2421.

Range Requirements. Approved TERF maneuver area/route.

LLL-2331 1.5 180 B,R,SC 2 CH-53 A NS

Goal. Conduct section TERF maneuvers and navigation under LLL conditions.

Requirements
Instructor:
NSI required for initial flights, refreshers or when not LLL qualified

Discuss:
Same as HLL-2321 and LLL-2330
LLL planning considerations

Introduce:
Same as HLL-2321 under LLL conditions

Review:
Same as TERF-2311 and HLL-2321

Performance Standards. Same as HLL-2320

Prerequisite. LLL-2330

Range Requirements. TERF maneuver area/route

LLL-2930 2.0 365 B,R E 2 CH-53 A NS

Goal. Conduct assault support tactical missions in a medium threat environment during LLL conditions.

Requirements
Instructor:
NSI required for initial flights, refreshers or when not LLL qualified

Discuss:
Same as TAC-2911 and TAC-2920
LLL planning considerations
Effects of ordnance delivery on NS

Review:
TAC-2911 and TAC-2920

Performance Standards. Same as TAC-2911

Prerequisites. CAL-2231, TERF-2331, and TAC-2911 (AG-2810 if .50 cal to be employed)

Ordnance. 2 .50 cal (TG and .50 Cal rounds optional reference

Chapter 2 of CH-53 T&R)

Range Requirements. Live fire AG(.50 cal) approved and laser safe range. CAL/MAL site. Approved TERF maneuver area/route

210. MISSION SKILL PHASE (3000)

1. Purpose. To introduce and develop proficiency in tactical planning, briefing and execution of a Marine Heavy Helicopter squadron's assigned Marine Corps Tasks. Mission Skills have been developed to ensure that squadrons are capable of performing the Marine Corps Tasks (MCTs) assigned to a Marine Heavy Helicopter Squadron. Core Skills are the enablers that allow crews to perform Mission Skills.

2. General

a. All FLSEs, NSIs, and those aircrew designated by the squadron commanding officer, will receive proficient status for all 3000 phase events as of the signing of this T&R. Squadron operations personnel will be responsible for manually updating the Mission Skills in M-SHARP for those personnel designated by the squadron commanding officer. No designation letter is required in the APR.

b. For initial, refresher, or when the aircrew under instruction are not proficient in a particular Mission Skill, training codes shall be given by an instructor pilot that is proficient in that Mission Skill code(s). Mission skill codes should be given to all those aircrew (Pilots, Crew Chief, AO) within the aircraft that meet the prerequisite. Additionally, for larger flights, any flight lead, (SL,DL,AFL,AMC) that is proficient in that Mission Skill can give the Mission Skill code to all aircrew within the flight that meet the prerequisite.

c. It is the intent that all TACEXs scenarios in the Core Skill and Core Plus Skill Phase be based on a minimum of one of the Mission Skills. If aircrew under instruction do not meet the prerequisite for the Mission Skill event, they will not log the Mission Skill event. However, the instructor of the Core Skill or Core Plus Skill TACEX will log both the Core Skill or Core Plus Skill event and the Mission Skill event (i.e: NSI logs a LLL-2930 and AT-3340. PUI in the LLL syllabus logs a LLL-2930). Once aircrew have been designated NSQ LLL, all subsequent TACEXs should be coded with the appropriate Core Skill or Core Plus Skill and Mission Skill event. Aircrew that are not proficient in a Core Skill or Core Plus Skill event may update both the Core Skill or Core Plus Skill and the Mission Skill event on the same sortie.

d. Prior to the commencement of this phase, aircrew under instruction shall be NSQ-LLL, External Stage complete, and Aerial Gunnery Stage Complete.

e. The aircrew under instruction will assist in the mission analysis, planning, briefing, execution and debriefing of each flight. Aircrew shall use the ANTTP series and NATOPS as source documents for planning, briefing, execution and debriefing.

f. Multiple Mission Skill training events may be logged per sortie (e.g. EXP-3240, AT-3340, AD-3540) as long as the requirement(s) is met for each code. Mission Skill phase training events are intended to be flown and logged in conjunction with other T&R syllabus events (e.g. for pilots: EXP-3240, AT-3340, AD-3540, LLL-2930, EXT-2430, EXT-2440, EXT-2441 and LLL-2331).

g. The PUI will log the TAC code and the instructor will log both the TAC code and the Mission Skill event(s) that applies. Initial TAC codes shall be

accomplished as a section, subsequent evolutions (when logged in conjunction with a Mission Skill) may be done single ship, based on the tactical scenario.

h. Mission Skill events shall be flown with operational ASE, .50 cals (as required for the tactical scenario) installed at a minimum (rounds and expendables optional), whenever practical.

i. Initial attempts to complete Mission Skills should be made in the aircraft, subsequent attempts may be accomplished in the simulator.

j. As of the signing of this manual, the current HMH Core MCTs are as follows:

Aviation Operations from Expeditionary Shore-Based Sites (MCT 1.3.3.3.2) (EXP)

Combat Assault Transport (MCT 1.3.4.1) (AT)

Air Delivery (MCT 4.3.4) (AD)

Aviation Support of Tactical Recovery of Aircraft and Personnel (MCT 6.2.2.1) (TRAP)

Air Evacuation (MCT 6.2.2)(AE)

k. Crew Requirements. P/P/CC/AG

3. Academic Training

a. Purpose. Prior to commencement of each event within the Mission Skill Phase, the required academic syllabus shall be completed in accordance with this Manual and the MAWTS-1 CH-53 Course Catalog.

b. The Mission Skill academic/ground training shall be complete IAW the POI requirements and prerequisites. Upon completion, the PUI shall report to the PTO or designated representative(s), who will then manually update the training code in M-SHARP and log the academic/ground training event in section 3, Aircrew Ground School Training of the APR, using the format listed in Enclosure 1 of this document.

c. NIPR 2000-6000 classes are located at the MAWTS-1 NIPR website under ASD, CH-53, T&R:

https://www.intranet.tecom.usmc.mil/sites/mawts1/default.aspx

d. SIPR 2000-6000 classes are located at the MAWTS-1 SIPR website under ASD, CH-53, T&R:

http://www.mawts1.usmc.smil.mil/

MISSION SKILL PHASE (3000)

EXP STAGE

ACAD-3000 (U) RAPID RESPONSE PLANNING
ACAD-3001 (S) REC THREAT TO THE MAGTF

AT STAGE

ACAD-3002 (U) NEO EXECUTION
ACAD-3003 (U) INTELLIGENCE PREPARATION OF THE BATTLE SPACE

TRAP STAGE

ACAD-3004 (S) PERSONNEL RECOVERY
ACAD-3005 (S) CH-53 SPECIFIC TRAP TTPS

AE STAGE

ACAD-3006 (U) CASEVAC

ACAD-3007 (U) CIRCADIAN RHYTHM AND FATIGUE
ACAD-3008 (U) INTRO TO NVG TACTICAL EMPLOYMENT

4. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Mission Skill Phase.

Academic: See event
Flight: AG-2840, External Stage Complete
Designation/Qualification: NSQ-LLL

5. Flight Events

EXP-3140 2.0 365 B,R E 1 CH-53/WST/APT TEN+ A/S (N)

Goal. Demonstrate the capability to operate from a shore-based site under a low to medium threat environment. Marine aviation units maintain the capability to operate from expeditionary shore-based sites (in line with unit/platform capabilities) to include Forward Operating Bases (FOBs), Expeditionary Airfields (EAFs), Forward Arming and Refueling Points (FARPS), austere forward operating sites, Tactical Landing Zones (TLZ), Helicopter Landing Zones (HLZs), etc. The Marine Air Traffic Control Mobile Team (MMT) can support operations at expeditionary shore-based sites by providing initial rapid response air traffic control (ATC), and command, control, and communications (C3). (JP 3-1, NDP 1, MCWP 3-2, MCWP 3-25.8)

Requirements
Instructor: NSI required when not NS qualified in light level event is conducted.

Discuss:
Same as 2920.
MMT operations.
EAF, FOB, FARP, LAAGER site operations.

Performance Standard. Plan, brief and execute a tactical mission to or from expeditionary shore-based (Airbase, EAF, FOB, COB, FARP, LAAGER site). Ensure aircrew properly plan for and demonstrate knowledge of the requirements of operating in an austere environment.

Prerequisites. NSQ-LLL, ACAD-3000-3001, ACPM 8300, 8310 and 8311

Ordnance. IAW Phase

Range Requirement. Live fire and expendable range as required

External Syllabus Support. ATC, DASC, ASLT and/or MMT for airspace control is preferred. AGS for expeditionary shore-based site setup preferred

AT-3240 2.0 365 B,R E 1 CH-53/WST/APT TEN+ A/S (N)

Goal. Demonstrate the capability to conduct assault transport operations in a low to medium threat environment. Aviation combat assault transport operations provides mobility to the MAGTF. It is used to deploy forces (air-landed or air-delivered) efficiently in offensive maneuver warfare, bypass obstacles, or quickly redeploy forces. Combat assault support allows the MAGTF Commander to build up his forces rapidly at a specific time and location, and allows him to apply and sustain combat power and strike the enemy where he is unprepared. This function

comprises those actions required for the airlift of personnel, supplies and equipment into or within the battle area by helicopter, tiltrotor or fixed-wing aircraft. (JP 3-0, 4-0, MCWP 3-2, MAWTS-1).

Requirements
Instructor: NSI required when not NS qualified in light level.event conducted.

Discuss: Same as 2920.

Performance Standard. Plan, brief and execute a tactical assault support mission (MARLOG, general support, NEO, resupply, insert, extract). If an L-Hour is utilized arrive in the LZ +/- 30 sec in the best position to support the ground combat element. Demonstrate a thorough understanding of objective area mechanics, command and control procedures, and fire support control measures.

Prerequisites. NSQ-LLL, ACAD-3002-3003, ACPM-8320

Ordnance. IAW Phase.

Range Requirement. Live fire and expendable range as required.

External Syllabus Support. Command and Control system if available. Escort and/or Command and Control aircraft are preferred, if available. Ground Combat Element preferred if available.

AD-3340 2.0 365 B,R E 1 CH-53/WST/APT TEN+ A/S (N)

Goal. Demonstrate the ability to conduct air delivery in a low to medium threat environment. Air delivery is in-flight transportation of equipment and supplies to remote areas or expeditionary sites [tactical landing zones, austere forward operating sites, Naval shipping, Forward Operating Bases (FOBs), Expeditionary Airfields (EAFs), Forward Arming and Refueling Points (FARPs), etc.]. Air delivery operations are performed by fixed-wing, tiltrotor or rotary-wing aircraft. Delivery can be accomplished with aircraft internal/external loads, or loads can be air dropped using specially rigged aerial delivery equipment and systems. Air drops are normally used when surface of helicopter transports cannot be used because of range, closed lines of communications, a lack of adequate airfields, a prohibitive ground tactical situation, high tonnage, or reduced response time. The Helicopter Support Team (HST) may be used during air delivery operations. Air delivery operations require detailed planning and integration at all levels and must support units in a rapidly changing environment. (JP 1, 3-0, 4-0, MCWP 3-2, 3-11.4, 3-21.2, 4-1, 4-11, 4-11.3, NDP-4, NWP 4-01, NAVSUP PUB Series)

Requirement
Instructor: NSI required when not NS qualified in light level event is conducted.

Discuss:
Same as EXT-2430.
Same as LLL-2930.
Same as HIE-4110, 4140, or 4141 (as required).

Performance Standard. Plan, brief and execute a tactical aerial delivery mission (External operations or HIE) in a low to medium threat environment. If an L-Hour is utilized arrive in the LZ +/- 30 sec.

Prerequisites. NSQ-LLL, ACPM-8321-8326

Ordnance. IAW Phase

Range Requirement. Live fire range and approved drop zone as required

External Syllabus Support. HST, as required. Jump Master and ground safety personnel, as required

TRAP-3440 2.0 365 B,R E 1 CH-53/WST/APT TEN+ A/S (N)

Goal. Demonstrate the ability to conduct Tactical Recovery of Aircraft and Personnel (TRAP) in a low to medium threat environment. Tactical Recovery of Aircraft and Personnel (TRAP) is performed for the specific purpose of the recovery of personnel, equipment, and/or aircraft. TRAP is conducted to locate and extract distressed personnel and sensitive equipment from enemy controlled area during wartime or contingency operations to prevent capture. TRAP is performed by an assigned and briefed aircrew and is a subcomponent of combat search and rescue (CSAR) and/or joint combat search and rescue (JCSAR) missions, but is only executed once the location of survivors is confirmed. A TRAP mission may include personnel to conduct the search portion of CSAR or the over water portion of search and rescue missions. The composition of a tactical recovery mission may vary from a single aircraft and aircrew to an assault support mission package that consists of multiple fixed-wing and rotary-wing aircraft with an onboard compliment of security, ground search, and medical personnel. (JP 1, 3-0, 3-50.2, MCWP 2-6, 3-2, 3-11.4, 3-24, 3-25.4, NDP 1, NWP 3-05**)**

Requirements

Instructor: NSI required when not NS qualified in light level event is conducted.

Discuss:
- TRAP template from AS TACSOP
- ISR employment
- Rescort considerations
- Rescue Vehicle responsibilities
- ISOPREP verification considerations
- RMC command and control considerations
- Survival Radio operation

Performance Standard. Plan, brief and execute a TRAP mission. Properly employ TRAP template. Effectively communicate with Isolated Personnel, Rescort, RMC and other supporting aircraft.

Prerequisites. NSQ-LLL, ACAD-3004, 3005, ACPM-8340

Ordnance. IAW Phase

Range Requirement. Live fire and expendable range as required

External Syllabus Support. Escort and/or Command and Control aircraft are preferred if available. Isolated personnel in the

objective area is preferred. Use of survival radios is preferred. Ground combat element is preferred if available.

AE-3540 2.0 365 B,R E 1 CH-53/WST/APT TEN+ A/S (N)

Goal. Demonstrate the ability to conduct an air evacuation operation in a low to medium threat environment. Air evacuation is the transportation of personnel and equipment from areas of operations to secure rear areas, to include casualty evacuations (CASEVAC), extraction of forces, or civilians. Transport helicopters, tiltrotor, and fixed-wing transport aircraft perform air evacuations. (JP 3-10.1, MCDP 1-0, MCWP 3-2, 3-11.4, 3-16, 3-24, 3-25, 3-27, 3-36)

Requirements
Instructor: NSI required when not NS qualified in light level event is conducted.

Discuss:
Casualty priorities.
Medical facility levels.
Aircraft configuration considerations.

Performance Standard. Plan, brief and execute a tactical air evacuation mission. If an L-Hour is utilized arrive in the LZ +/- 30 sec in a position to best support the ground combat element.

Prerequisites. NSQ-LLL, ACAD-3006-3008 and ACPM 8350-51

Academic training. ACAD-3002 and 3006

Ordnance. IAW Phase

Range Requirement. Live fire and expendable range as required

External Syllabus Support. Ground Combat Element and/or Logistics Combat Element is preferred if available

211. CORE PLUS SKILL PHASE (4000)

1. Purpose. To introduce and develop proficiency in the execution of the Core Plus Skills required as a pilot within a Marine Heavy Helicopter Squadron (HMH). Core Plus Skills have a low probability of execution or are theater specific and are not included in the unit readiness evaluation.

2. General

a. The following events within this phase require a Basic Instructor Pilot (BIP) for all initial/Refresher flights:

(1) HIE-4110, 4140, 4141
(2) CBRN-4600
(3) TAC-4940 & 4942(if done during the day)

b. All Mission Plus Skill events shall follow the guideline of the Mission Skill section.

c. Stages. The following stages are included in the Mission Plus Skill Phase of training.

(4000) Core Plus Phase Academics
(4100) Helicopter Insertion and Extraction Techniques
(4400) Externals

(4500) Ground Threat Reaction/ Defensive Measures
(4600) Chemical, Biological, Radiation, Nuclear
(4700) Carrier Qualification
(4900) Tactics & Mission Plus Skills

d. Conditions. Within the stages all training codes are further broken down according to ambient conditions.

(XX00) Sim
(XX10) Daylight
(XX20) High Light Level
(XX30) Low Light Level
(XX40) Can be done High or Low Light Level

3. Ground/Academic Training

a. Purpose. Within the Core Plus Skill Phase the required academic syllabus shall be completed in accordance with this Manual and the MAWTS-1 CH-53 Course Catalog.

b. The Core Plus Skill academic/ground training shall be complete IAW the POI requirements and prerequisites for the stage and IAW paragraph 206 of this manual. Upon completion, the PUI shall report to the PTO or designated representative(s), who will then manually update the training code in M-SHARP and log the academic/ground training event in section 3, Aircrew Ground School Training of the APR, using the format listed in Enclosure 1 of this document.

c. 2000-6000 classes are located at the MAWTS-1 NIPR website under ASD, CH-53, T&R:

https://www.intranet.tecom.usmc.mil/sites/mawts1/default.aspx

d. SIPR 2000-6000 classes are located at the MAWTS-1 SIPR website under ASD, CH-53, T&R:

http://www.mawts1.usmc.smil.mil/

CORE PLUS SKILL PHASE (4000)

GTR STAGE

ACAD-4000 (S) RF SAM

DM STAGE

ACAD-4001 (S) DM GAME PLANNING
ACAD-4002 (U) CH-53 DM/GTR II
ACAD-4003 (U) HELICOPTER PS AND EM
ACAD-4004 (S) FW THREAT TO ASSAULT SUPPORT
ACAD-4005 (S) ATTACK HELICOPTER THREAT TO ASSAULT SUPPORT

TAC STAGE

ACAD-4006 (U) RGR
ACAD-4007 (S) MOUT

RAID STAGE

ACAD-4008 (U) JCAS
ACAD-4009 (S) GCE RAID PLANNING
ACAD-4010 (U) MAGTF TARGETING AND FIRE SUPPORT PLANNING

ADGR STAGE

ACAD-4011 (U) TBFDS/MK-105

4. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Core Plus Skill Phase.

Academic: See event
Flight: CSIX-1902
Designation/Qualification: H2P

5. Helicopter Insertion & Extraction Techniques (HIE)

a. Purpose. To introduce HIE methods required in executing special operations.

b. General. The pilots shall conduct a brief with the supported unit.

c. Crew Requirements. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings and chalk talks which shall be completed IAW the Helicopter Insertion & Extraction Techniques event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Helicopter Insertion & Extraction Techniques:

Academic:
Flight: CAL-2210
Designation/Qualification: H2P

HIE-4110 1.5 365 B,R 1 CH-53 A D

Goal. Conduct tactical insertion of a ground force via helocast.

Requirements
Discuss:
- CRM
- Safety precautions
- Training master procedures
- Signals/communications with jump master
- Obstacle clearance
- Precision taxi techniques over water
- Emergency procedures to include NS emergencies
- Vertigo and visual illusions

Introduce:
- Techniques for inserting personnel by helocast
- Signals/communications with jump master
- Precision taxi

Performance Standards. Execute approach/hover within ± 5 ft/± 3 kts of intended altitude and ground speed.

Prerequisites. TERF-2310

Range Requirements. Approved helocast drop zone

External Syllabus Support. Jump master, safety boat and safety personnel

HIE-4140 1.5 * B,SC 1 CH-53 A (NS)

Goal. Conduct tactical insertion and/or extraction of a ground force via fast rope, rappelling, or SPIE.

Requirements

Discuss:
- CRM
- Safety precautions
- Signals/communications with HRST master
- Training master procedures
- Rescue Hoist procedures and types of operations
- Obstacle clearance
- Precision hover/hover performance
- Emergency procedures to include NS emergencies if flown at night

Introduce:
- Techniques for inserting personnel by fastrope, rappelling, or SPIE
- Signals/communications with HRST master
- Precision hover

Performance Standards. Execute approach and hover within ± 5′ of intended altitude and within 2 meters of intended spot.

Prerequisites. CAL-2210 for day. NSQ for appropriate light level

Range Requirements. Suitable CAL/MAL site

External Syllabus Support. HRST Master and ground safety personnel

HIE-4141 1.5 * B 1 CH-53 A (NS)

Goal. Conduct tactical insertion via para ops.

Requirements

Discuss:
- CRM
- Safety precautions
- Signals/communications with jump master
- Training master procedures
- Obstacle clearance
- Emergency procedures to include NS emergencies

Introduce:
- Techniques for inserting personnel by para ops
- Signals/communications with jump master

Performance Standards. Fly within ± 50′ of designated altitude and ± 5 kts of designated airspeed.

Prerequisites. CAL-2210 for day. NSQ for appropriate light level

Range Requirements. Approved drop zone

External Syllabus Support. Jump master and ground safety personnel

6. Terrain Flight External Loads (EXT)(4400)

a. Purpose. To develop skills necessary for operating with external loads in all ambient conditions in the terrain flight regime.

b. General

(1) Review operational and safety considerations discussed in the appropriate NATOPS Flight Manual, ANTTP series and MCRP 4-11.3E and Multi-Service Helicopter Sling Load Manual.

(2) TERFI required for EXT-4412 initial, refresher or when not TERF qualified.

(3) NSI required for EXT-4440 initial, refresher or when not NS qualified in light level event is conducted.

c. Crew Requirement. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the External stage event descriptions.

e. The following events/designations are prerequisites prior to the commencement of the Terrain Flight External stage:

Academic: ACAD-2011, 2012, 2014, 2021, 4000
Flight: EXT-2400, 2210, 2310, 2410.
Designation/Qualification: H2P

EXT-4412 1.5 365 B,R,SC WST/APT and EAT S/A D

Goal. Conduct external flight in the TERF profile

Requirement
Instructor:
TERFI required for all initial flights and refresher

Discuss:
Same as EXT-2401 and EXT-2410 or EXT-2411

Introduce:
TERF externals

Review:
Single and/or dual point procedures
TERF maneuvers

Performance Standards. Demonstrate a working knowledge of MSHSL Manual WRT basic equipment rigging procedures, load inspection, and airspeeds. Fly within 50’ and 10 kts of briefed altitude and airspeed and deliver load within 5 meters of intended point of delivery while maintaining +/- 10 degrees of assigned heading. Maintain situational awareness with regards to load clearance and limited power considerations while conducting TERF maneuvers. Demonstrate the ability to plan and compute power requirements based on weight and power, OPCs, SPPCs (if required) and in zone power computations using actual ambient conditions. Minimum of 1 pickup and delivery required.

Prerequisite. CAL-2210, TERF-2310, and EXT-2410 or EXT-2411 (if done dual point)

Range Requirements. Approved CAL/MAL site. Approved TERF maneuver area/route

External Syllabus Support. WST/APT and EAT if conducted in sim. HST, single or dual point load

EXT-4440 1.5 365 B,R,SC WST/APT and EAT S/A NS

Goal. Conduct external flight in the TERF profile utilizing NS.

Requirements
Instructor:
NSI required for initial flights, refreshers or when not NS qualified in the light level event is conducted

Discuss:
Same as EXT-4412, EXT-2420 or EXT-2421
Terrain/obstacle clearance
Route planning considerations
Light level planning considerations

Introduce:
TERF externals in the night environment

Review:
Single and/or dual point procedures
TERF maneuvers

Performance Standards. Same as EXT-4412

Prerequisite. 4412. If conducted under HLL conditions: TERF-2320, EXT-2420 (if single point), and EXT-2421 (if dual point)

If conducted under LLL conditions: NSQ-HLL, TERF-2330 and EXT-2430

Range Requirements. CAL/MAL site. TERF maneuver area/route

External Syllabus Support. WST/APT and EAT if conducted in sim. HST, single or dual point load if conducted in the aircraft

7. Ground Threat Reaction (GTR)

a. Purpose. To introduce and develop proficiency in using ASE and tactics to defeat ground-based radar threats.

b. General. Pilots shall conduct this stage against an electromagnetic threat simulator. Understanding of the APR-39 and ALE-47 is essential in preparing aircrew prior to and executing the flight.

c. Crew Requirement. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the Ground Threat Reaction stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the stage Ground Threat Reaction stage:
Academic: GTR program guide and ACAD-4000
Flight: TERF-2311
Designation/Qualification: TERF Qualified

GTR-4540 1.5 365 B,R 2 CH-53 A (NS)

Goal. Conduct GTR while employing ASE against various ground-based radar threats.

Requirements
Operable APR-39
Instructor:
DMI or WTI for initial flights, refreshers. NSI/DMI is

required if not NS qualified in light level event is conducted

Discuss:
- Operations of the ALE-47, APR-39, ALQ-157, AAQ-24, AAR-47 Types of expendables
- The strengths and weaknesses of each ASE system versus ground-to-air and air-to-air threats.
- Current MDF and OFP
- Backplate settings
- CRM
- Section tactics and tactical maneuvering against ground-based threat systems
- Use of radar horizon, ground clutter, radar resolution cells, and radar masking techniques

Introduce:
- Various threat signatures concentrating on threat recognition and detection
- Surface fires evasive maneuvers coordinated with the dispensing of chaff.
- Section maneuvering against radar guided threats on an EW range or with an emitter
- Section threat avoidance, masking and the use of chaff and flares

Performance Standards. Effectively maneuver aircraft against various ground-based radar threats. Utilize standard terminology in inter- and intra-aircraft communications. Demonstrate working knowledge of ASE.

Prerequisite. TERF-2311, GTR-2500 ACAD-4000

Ordnance. 60 Chaff

Range Requirements: EW range or emitter with threat systems to include electromagnetic and ground based threat simulation. Emitter should include search, acquisition, and track capabilities. Expendables capable range as appropriate

External Syllabus Support. Emitter with various threat system simulation.

8. Defensive Measures (DM)

a. Purpose. To develop proficiency in evading enemy air threats incorporating ASE in a medium threat environment. Upon completion of this stage, the pilot will be able to effectively maneuver to evade, in a multi-plane flight, low altitude air-to-air threats.

b. General. Pilots shall conduct this stage against Fixed Wing (FW) and Rotary Wing (RW) threats. Aggressor aircraft shall simulate enemy aircraft capabilities to the max extent possible. PUI is DM qualified upon completion of DM-4520 and DM-4521.

c. Crew Requirements. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the Defensive Measures stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Defensive Measures stage:

Academic: DM program guide. ACAD-4000-4005
Flight: TERF-2311
Designation/Qualification: TERF Qualified

DM-4510 1.5 365 B,R 2 CH-53 A D

Goal. Conduct section DM against a rotary wing aggressor.

Requirements
Instructor:
- DMI required for initial flights, refreshers or when not DM qualified.

Discuss:
- CRM
- Standard terminology
- Five axioms of survival
- DM training rules
- Ps and EM
- DM game planning
- Friendly weapons employment
- ASE utilization
- Aircraft Categories
- Adversary aircraft parameters
- Adversary weapons envelopes
- Mutual support
- Section tactical maneuvers
- Pre and post merge maneuvers
- 1 circle vs 2 circle fight
- Free and engaged roles and responsibilities
- ACM against actual threats in comparison to DM training

Introduce:
- Section tactical maneuvers in response to a threat helicopter
- ACM

Performance Standards. Demonstrate understanding of friendly and enemy energy states. Effectively maneuver aircraft against various rotary wing threats. Utilize standard terminology in inter- and intra-aircraft communications. Demonstrate and correctly apply 5 axioms of DM. Demonstrate working knowledge of ASE.

Prerequisite. ACAD-4001-4005. TERF-2311 proficient

Ordnance. 60 flares

Range Requirements. Special use airspace. Expendable capable range. Approved TERF maneuver area

External Syllabus Support. RW aircraft to serve as aggressor

DM-4511 1.5 365 B,R 2 CH-53 A D

Goal. Conduct section DM against a fixed wing aggressor.

Requirements
Instructor:
- DMI required for initial flights, refreshers or when not DM

qualified.

Discuss:
CRM
Standard terminology
Five axioms of survival
Ps and EM
DM game planning
Friendly weapons employment
ASE utilization
Aircraft Categories
Adversary aircraft parameters
Adversary weapons envelopes
Mutual support
Section tactical maneuvers
Pre and post merge maneuvers
1 circle vs 2 circle fight
Free and engaged roles and responsibilities
ACM against actual threats in comparison to DM training

Introduce:
Section tactical maneuvers in response to a fixed wing aircraft. ACM.

Performance Standards. Demonstrate understanding of friendly and enemy energy states. Effectively maneuver aircraft against various fixed wing threats. Utilize standard terminology in inter- and intra-aircraft communications. Demonstrate and correctly apply 5 axioms of DM. Demonstrate working knowledge of ASE.

Prerequisites. ACAD-4001-4005. TERF-2311 proficient.

Ordnance. 60 flares.

Range Requirements. Special use airspace. Expendable capable range. Approved TERF maneuver area.

External Syllabus Support. FW aircraft to serve as an aggressor.

9. Chemical, Biological, Radiological and Nuclear (CBRN)

a. Purpose. To conduct flight operations while wearing NBC protective equipment.

b.General. For the safe execution of initial CBRN flights, one pilot and one air crewman shall remain unmasked.

c. Crew Requirement. P/P/CC if done in the aircraft.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the Chemical, Biological, Radiological and Nuclear stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Chemical, Biological, Radiological and Nuclear stage:

Academic:
Flight: FAM-2105
Designation/Qualification: H2P

CBRN-4600 1.5 * B 1 CH-53/WST/APT TEN S/A (N)

Goal. Conduct flight in a simulated CBRN environment.

Requirements
Instructor:
NSI required is not NS qualified in light level event is conducted

Discuss:
CRM
Comfort level
Wearing of CBRN equipment in the aircraft
Distortion of vision
Communications
Proper use of CBRN defensive equipment
NS concerns with CBRN equipment

Introduce:
Taxi, low work, pattern work
Confined area landings
Communications

Performance Standards. Adequately taxi, hover, and fly while wearing CBRN gear. Communicate effectively while wearing CBRN gear.

Prerequisite. CAL-2105 for day, CAL-2220 for HLL, CAL-2230 for LLL

Range Requirements. CAL/MAL site

10. Carrier Qualification (CQ)

a. Purpose. To qualify pilots for day and NS shipboard operations. The term “carrier qualification” encompasses all shipboard landing operations.

b. General

(1) Discuss and become familiar with all aspects of shipboard operations and CRM applicable to the Carrier Qualification stage as described in the appropriate NATOPS Flight Manual, NAVMC 3500.14, NWP-42, LHA/LHD NATOPS, and OPNAVINST 3710.7. Briefing should include patterns, altitudes, airspeeds and Helicopter director signals.

(2) 5 day and 5 night FCLPs shall be accomplished within 30 days prior to shipboard qualifications. Refer to CH-53E NATOPS, Chapter 8, Shipboard Procedures or CH-53D NATOPS, Chapter 9, Carrier Based Procedures.

(3) Initial day/night carrier qualification shall be made under ideal weather conditions to include a visible horizon.

(4) Each initial or refresher instructional flight requires a minimum of 5 CQs; additional CQs as required to demonstrate proficiency.

(5) At least 2 day shipboard landings must be made on the day of the night qualification. Initial Night Systems Carrier Qualification training shall be accomplished under High Light Level conditions. IAW the Aviation Program Manual, any requalification and proficiency training may be accomplished under any light level condition. CQ-2742 requires an NSI when not NS qualified in the light level event is conducted.

c. Crew Requirement. CQ-4711: P/P/CC/AO. CQ- 4743: P/P/CC/AO.

d. Academic Training. PUI should read and be familiar with topics contained in the CH-53 NATOPS, LHA/LHD NATOPS, and OPNAVINST 3710.7 regarding shipboard operations.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Carrier Qualification stage:

Academic: N/A

Flight: 5 day and 5 night FCLPs within 30 days prior to shipboard qualification. For night qualification, at least 2 day shipboard landings must be made on the day of the night qualification.

Designation/Qualification: H2P

CQ-4711 1.5 365 B,R,SC 1 CH-53 A D

Goal. Introduce day CQs.

Requirements
Discuss:
- CRM
- Comfort level
- Feet wet/landing checklist
- Closure rate
- Wind envelopes
- Aircraft lighting procedures
- Deck markings
- LSE signals
- Voice procedures/Lost communication procedures
- Shipboard landing patterns
- Shipboard holding patterns
- Shipboard instrument patterns
- Shipboard emergencies
- Air space control in the shipboard environment

Introduce:
- Day CQ

Performance Standards. Same as FCLP-2710.

Prerequisites. FCLP-2710

External Syllabus Support. Helicopter capable ship

CQ-4743 1.5 365 B,R,SC 1 CH-53 A NS

Goal. Conduct NS CQs.

Requirements
Initial CQ-4743 shall be conducted under HLL conditions.

Instructor:
- NSI required when not NS qualified in light level event is conducted.

Discuss:
- Same as FCLP-2742
- Scan techniques
- NS aircraft/deck lighting
- NS landing techniques
- NS emergencies

Introduce: NS CQs.

Performance Standards. Same as FCLP-2742.

Prerequisites. NSQ-HLL, FCLP-2742 and CQ-4711

External Syllabus Support. NS compatible helicopter capable ship

11. Tactics (TAC)

a. Purpose. To conduct practical application exercises using skills developed throughout the syllabus. Pilots shall emphasize the integration of Marine aviation assets, threat and threat counter-tactics, and the C3 system. These exercises will include mission planning, briefing, and execution of an assault support mission in a simulated medium threat environment. The total number of aircraft, as specified, may be a dissimilar mix of aviation assets.

b. General. Pilots should use the ANTTP 3-22.3-CH53 and the ASTACSOP as a source document for planning. Pilots may conduct these flights in high to low threat level conditions, and/or at night if the participating pilots have completed the prerequisites and NSQ designation.

c. Crew Requirements. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed in accordance with the Core Plus stage event descriptions.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Core Plus Tactics stage:

Academic: N/A
Flight: TAC-2911
Designation/Qualification: H2P

TAC-4940 2.0 365 B,R E 3+ ACFT A (NS)

Goal. Conduct division tactics in a low-to-medium threat environment.

Requirements
Instructor:
NSI required when not NS qualified in the light level event is conducted

Discuss:
- Same as TAC-2911, 2920 and 2930
- Division tactics
- Objective area analysis
- Threat analysis and counter-tactics
- The use of escort assets emphasizing responsibilities of the air mission commander, assault flight leader, and escort flight leader

Introduce:
- Division tactics
- Use escort assets emphasizing responsibilities of the air mission commander, assault flight leader, and escort flight leader

Performance Standards. Plan and brief a tactical mission IAW AS TACSOP and ANTTP 3-22.3-CH53. Remain oriented IAW AS TACSOP Magellan criteria while navigating to a minimum of 6

checkpoints while using 1:250,000 and 1:50,000 scale maps. To the maximum extent possible route should be a minimum of 50 nm. Demonstrate proficiency with aircraft navigation systems. Arrive in LZ within ± 30 sec of L-Hour and within 2 rotors of prebriefed landing point.

Prerequisites. 2911, and If done HLL- NSQ HLL, if done LLL-NSQ-LLL

Ordnance. Two .50 cal (TG and .50 Cal rounds optional reference Chapter 2 of CH-53 T&R)

Range Requirements. Live fire AG range (.50 cal). CAL/MAL site. Approved TERF maneuver area/route

External Syllabus Support. Assault support escort aircraft if available

TAC-4941 2.0 365 B,R E 2 CH-53 A NS

Goal. Develop tactical flight proficiency in urban terrain operations at night.

Requirements
Instructor:
NSI required when not NS qualified in light level event is conducted.

Discuss:
Effects of ambient lighting on NS in an urban area
Urban navigation
Targeting and fire support coordination in an urban area

Introduce:
Effects of ambient lighting on NS in an urban area
Urban navigation
Targeting and fire support coordination in an urban area

Performance Standards. Plan and brief a tactical mission IAW ASTACSOP and ANTTP 3-22.3-CH53. Remain oriented IAW ASTACSOP Magellan criteria while navigating using appropriate scale maps. Demonstrate proficiency with aircraft navigation systems.

Prerequisites. 2911, ACAD-4007, if done HLL- NSQ HLL, if done LLL- NSQ-LLL

Range Requirements. CAL/MAL site in urban environment

External Syllabus Support. Assault support escort aircraft if available

TAC-4942 4.0 365 B, R E 2 CH-53 A (NS)

Goal. Conduct a long range mission in a low-to-medium threat environment utilizing HAAR, TFBDS, MK-105 and/or FARP/RGR.

Requirements
Instructor:
NSI required when not NS qualified in light level event is conducted

Discuss:
Same as TAC-2911 or TAC-2930 if flown at night

Refueling considerations
Detailed fuel planning
Escort/fire support coordination
Utilization of TBFDS, FARP/RGR considerations
Multiple tanker/receiver operations

Introduce:
Detailed fuel planning
Utilization of TBFDS, FARP/RGR considerations
Multiple tanker/receiver operations if available

Performance Standards. Plan and brief a tactical mission IAW AS TACSOP and ANTTP 3-22.3-CH53. Remain oriented IAW RW TACSOP Magellan criteria while navigating while using 1:250,000 and 1:50,000 scale maps. Utilize fuel from external source (TBFDS/MK-105 may be used). Demonstrate proficiency with aircraft navigation systems. Arrive in LZ within ± 30 sec of L-Hour and within 2 rotors of prebriefed landing point.

Prerequisite. ACAD-4006, TAC-2911, if done HLL- NSQ HLL, if done LLL- NSQ-LLL. If plan is to HAAR, HAAR-2611 (day), HAAR-2640 (NS)

Ordnance. Two .50 cal (TG and .50 Cal rounds optional)

Range Requirements. Live fire AG(.50 cal) approved and laser safe range. CAL/MAL site. Approved TERF maneuver area/route. Special use airspace for AR

External Syllabus Support. Assault support escort aircraft if available. KC-130 Tanker. AGS as required

212. MISSION PLUS SKILL PHASE (4000)

1. Purpose. To plan, brief, and execute Mission Plus events in a low to medium threat environment.

2. General

a. All FLSEs, NSIs, and those aircrew designated by the squadron commanding officer, will receive a proficient status for all 4000 Mission Plus Skill events as of the signing of this T&R. Squadron operations personnel will be responsible for manually updating the Mission Plus Skills in M-SHARP for those personnel designated by the squadron commanding officer. No designation letter is required in the APR.

b. For initial, refresher, or when the aircrew under instruction are not proficient in a particular Mission Plus Skill, training codes shall be given by an instructor pilot that is proficient in that Mission Plus Skill. Mission Plus Skill events should be given to all those aircrew (Pilots, Crew Chief, AO) within the aircraft that meet the prerequisite. Additionally, for larger flights, any flight lead, (SL,DL,AFL,AMC) that is proficient in that Mission Plus Skill can give the Mission Plus Skill code to all aircrew within the flight that meet the prerequisite.

c. It is the intent that all TACEX scenarios in the Mission Skill and Mission Plus Skill Phase be based on a minimum of one of the Mission Skills. If aircrew under instruction do not meet the prerequisite for the Mission Skill event, they will not log the Mission Skill event. However, the instructor of the Core Skill or Core Plus Skill TACEX will log both the Core Skill or Core Plus Skill event and the Mission Skill event (EX: NSI logs a LLL-2930, AT-3340, and RAID-4980). The PUI in the LLL syllabus logs a LLL-

2930). Once aircrew have been designated NSQ-LLL, all subsequent TACEXs should be coded with the appropriate Core Skill or Core Plus Skill and Mission Skill code or Mission Plus Skill. Aircrew that are not proficient in a Core Skill or Core Plus Skill event may update both the Core Skill or Core Plus Skill and the Mission Skill or Mission Plus Skill event on the same sortie.

d. Prior to the commencement of this phase, aircrew under instruction shall be NSQ-LLL.

e. The aircrew under instruction will assist in the mission analysis, planning, briefing, execution and debriefing of each flight. Aircrew shall use the ANTTP series and NATOPS as source documents for planning, briefing, execution and debriefing.

f. Multiple Mission Skill and Mission Plus Skill training events may be logged per sortie (e.g. EXP-3240, AT-3340, AD-3540, RAID-4980, SEA-4982) as long as the requirement(s) is met for each event. Mission and Mission Plus training events are intended to be flown and logged in conjunction with other T&R syllabus events (e.g. for pilots: EXP-3240, AT-3340, AD-3540, RAID-4980, ADGR-4981, LLL-2930, EXT-2430, EXT-2440, EXT-2441 and LLL-2331).

g. The PUI will log the TAC code and the instructor will log both the TAC code and the Mission Skill and/or Mission Plus Skill event(s) that applies. Initial TAC codes shall be accomplished as a section, subsequent evolutions (when logged in conjunction with a Mission Skill or Mission Plus Skill) may be done single ship, based on the tactical scenario.

h. Mission Plus Skill events shall be flown with operational ASE, .50 cals (as required for the tactical scenario) installed at a minimum (rounds and expendables optional), whenever practical.

i. Initial attempts to complete Mission Skills and Mission Plus Skills should be made in the aircraft, subsequent attempts may be accomplished in the simulator.

j. As of the signing of this manual, the current HMH Core MCTs are as follows:

MCT 1.3.4.1.1 Conduct Airborne Rapid Insertion/Extraction (RAID)

MCT 1.3.4.2.1 Provide Aviation-Delivered Ground Refueling (ADGR)

MCT 1.3.3.3.1 Aviation Operations from Expeditionary Sea-Based Sites (SEA)

k. Crew Requirements. P/P/CC/AG.

3. Academic Training

a. Prior to commencement of each event within the Mission Plus Skill Phase, the required academic syllabus shall be completed in accordance with this Manual and the MAWTS-1 CH-53 Course Catalog.

b. The Mission Plus Skill academic/ground training shall be completed IAW the POI requirements and prerequisites. Upon completion, the PUI shall report to the PTO or designated representative(s), who will then manually update the training code in M-SHARP and log the academic/ground training event in section 3, Aircrew Ground School Training of the APR, using the format listed in Enclosure 1 of this document.

4. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Core Plus Tactics stage:

a. Academic: See event description

b. Flight: TAC-2930

c. Designation/Qualification: NSQ-LLL

RAID-4980 2.0 365 B,R E 2 CH-53/WST/APT TEN+ A/S (N)

Goal. Demonstrate the ability to conduct tactical airborne rapid insertion/extraction operations in a low to medium threat environment. Airborne rapid insertion/extraction is the planned insertion/movement of forces conducted rapidly followed by a planned and rapid withdrawal. Helicopter Rope Suspension Techniques (HRST) provides Marines with the ability to conduct insertions and extractions where landings are impractical. Airborne rapid insertion/extraction includes methods such as rappelling, fast rope, special patrol insertion and extractions, etc. (MCWP 3-2, 3-11.4, 3-24, MCRP 3-11.4A)

Requirements. There is no HRST requirement to conduct the RAID mission skill. Any planned insertion and extraction mission meets the requirement to log the RAID mission skill. Landing is the preferred method, HRST can be used as an additional insertion and/or extraction method when landing is impractical.

Instructor:
NSI required when not NS qualified in the light level event is conducted.

Discuss: Same as TAC-3930.

Performance Standard. Plan, brief and execute a tactical airborne rapid insertion/extraction mission. If a L-Hour is utilized arrive in the LZ +/- 30 sec in the best position to support the ground combat element. Execute an approach and hover within +/- 5’ of intended altitude and within 10’ of intended spot and/or fly with +/- 50’ of designated altitude and +/- 5 kts of designated airspeed.

Prerequisite. NSQ-LLL, ACAD-4008-4010.

Ordnance. Two .50 cal (TG and rounds per weapon are optional)

Range Requirement. Suitable CAL/MAL site

External Syllabus Support. HRST Master and ground safety personnel, if applicable

ADGR-4981 2.0 365 B,R E 1 CH-53/WST/APT TEN+ A/S (N)

Goal. Demonstrate the ability to provide aviation-delivered ground refueling to combat aircraft or tactical vehicles in a low to medium threat environment. Rapid ground refueling (RGR) is a method of providing fuel to aircraft and tactical ground vehicles (TGV) utilizing KC-130 and CH-53 aircraft in austere locations, where no other source of fuel is readily available. This method of refueling permits operation of fixed- and rotary-wing aircraft and TGV without the requirement to commit the significant logistical assets necessary to operate helicopter expeditionary refueling systems (HERS), or tactical airfield fuel dispensing systems (TAFDS). RGR can also quickly resupply established forward-arming and refueling (FARP) sites and forward-operating bases (FOB). The capability of the KC-130/CH-53 to operate as a

tactical ground refueler enhances MAGTF operations. (ANTTP 3-22.3-KC-130

Requirements
Instructor: NSI required when not NS qualified in the light level event is conducted

Discuss:
TBFDS/MK-105 capabilities and considerations
LZ Markings
Arm/De-Arm procedures and ordnance considerations
Site security
Aircraft sequencing and airspace considerations

Performance Standard. Plan, brief and execute a tactical TBFDS or MK-105 refueling evolution. Calculate accurate fuel requirements; ensure aircraft integration and FARP site security.

Prerequisite. NSQ-LLL, ACAD-4011

Ordnance. Two .50 cal (TG and 500 rounds per weapon are optional)

Range Requirement. Live fire range as required

External Syllabus Support. TBFDS/MK-105 system, escort, MMT and/or Command and Control aircraft are optional

SEA-4982 2.0 365 B,R E 1 CH-53/WST/APT TEN+ A/S (N)

Goal. Demonstrate the capability to operate from Sea based sites. Marine aviation units maintain the capability to operate from Naval shipping (amphibious platforms, carriers, etc.) in line with platform and unit capabilities. (JP 3-0, MCWP 3-2)

Requirement
Instructor: NSI required when not NS qualified in the light level event is conducted.

Discuss:
Same as CQ-2743
Deck cycles
Combat Cargo/troop loading considerations while in shipboard environments
Airspace considerations
IFF procedures

Performance Standard. Plan, brief and execute a tactical mission to or from sea based site or FCLP pad. Ensure aircrew properly plans for and demonstrate knowledge of the particulars of operating in the shipboard environment.

Prerequisite. NSQ-LLL and appropriate CQ/FCLP event.

Ordnance. 2 .50 cal (TG and 500 rounds per weapon are optional).

Range Requirement. Live fire range as required.

External Syllabus Support. Ship or FCLP pad as required.

213. INSTRUCTOR TRAINING PHASE (5000)

1. General. Upon the successful completion of the check flight, the instructor will be designated in writing by the squadron commanding officer. Copies of the designation or qualification shall be placed in the APR and

NATOPS.

2. Purpose. This phase contains instructor workup and evaluations certification syllabus events.

3. Academic/Ground Training

a. Purpose. Within the Instructor Training Phase the required academic syllabus shall be completed in accordance with this Manual and the MAWTS-1 CH-53 Course Catalog.

b. The Instructor Training Phase academic/ground training shall be complete IAW the POI requirements and prerequisites for the stage and IAW paragraph 206 of this manual. Upon completion, the PUI shall report to the PTO or designated representative(s), who will then manually update the training code in MSHARP and log the academic/ground training event in section 3, Aircrew Ground School Training of the APR, using the format listed in Enclosure 1 of this document.

c. 2000-6000 classes are located at the MAWTS-1 NIPR website under ASD, CH-53, T&R:

https://www.intranet.tecom.usmc.mil/sites/mawts1/default.aspx

d. SIPR 2000-6000 classes are located at the MAWTS-1 SIPR website under ASD, CH-53, T&R:

http://www.mawts1.usmc.smil.mil/

INSTRUCTOR TRAINING PHASE (5000)

TERFI STAGE

ACAD-5000 INSTRUCTIONAL TECHNIQUES

4. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Instructor Training Phase.

Academic: See event

Flight: Core and Mission Skill complete

Designation/Qualification: NSQ-LLL

5. Basic Instructor Pilot (BIP)

a. Purpose. To develop qualified instructor pilots for single ship or wingman events in the day familiarization, instrument, CAL, or external syllabus.

b. General

(1) In order to begin the BIP syllabus, a pilot must be recommended by the Standardization Board (in conjunction with a recommendation for HAC), have a minimum of 450 hours, be core and mission skill complete, and demonstrate the maturity, judgment, and discipline required of a pilot serving in an instructor role.

(2) The BIP syllabus shall be completed in conjunction with the HAC syllabus and is a prerequisite to HAC-6122.

(3) All BIP instructional flights shall be conducted by a section leader or higher. Upon successful completion of HAC-6122, the Squadron commanding officer will designate the PUI a BIP in conjunction with the HAC designation. A designation letter signed by the Squadron commanding officer stating that the pilot is a qualified BIP shall be placed in the pilot's

NATOPS jacket and a copy in the pilot's APR with a corresponding logbook entry.

(4) Previously designated BIPs may attain re-designation by the Squadron commanding officer, at his/her discretion, upon successful completion of HAC-6122/NATOPS-6100 (NATOPS check specifying they are aircraft commanders and BIPs). NATOPS-6100 should emphasize instructional techniques for all HACs and above.

(5) Upon signature of this manual, all HACs designated prior to that date (including refreshers), may be designated a BIP, at the discretion of the squadron commanding officer. Any subsequent PUI in the basic or transition syllabus shall complete the entire BIP syllabus.

(6) If a designated BIP loses proficiency in any of the prerequisite events listed in paragraph (e), he/she may not instruct in that event until he/she regains proficiency.

(7) BIP events may be combined with each other or another training event.

c. Crew Requirements

(1) SBIP-5100 P/CP

(2) SBIP-5101 P/CP

(3) BIP-5110 P/P/CC/AO (as required)

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed prior to starting the Basic Instructor Pilot stage.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Basic Instructor Pilot stage:

Academic: N/A

Flight: Core and Mission Skill complete

Designation/Qualification: NSQ-LLL

SBIP-5100 1.5 * B 1 WST/APT S D

Goal. Introduce general instructional techniques for FAM, CAL, and INST events.

Requirements

Discuss:
- Instructor role during initial syllabus events.
- Syllabus event performance standards.
- Role of instructor when a student does not meet the performance standard
- Instructor ATF writing responsibilities.
- Proper ATF writing.
- Instructor SA vs student SA
- Instructor comfort level and when to intervene during student performed maneuvers.
- CRM during T&R syllabus events.
- Effective instruction vs non effective instruction
- Preflight and postflight pilot briefings.
- Cockpit procedures during initial syllabus events.

Breaking down the mechanics of an approach as an instructor.
Simulated emergency procedures during initial events.
Actual emergency procedures during initial syllabus events.
IFR planning.
Local course rules.
Squadron, Group, Wing, and/or MEU SOPs.
Techniques of instruction.

Introduce:
Techniques of instruction during FAM, CAL and INST maneuvers.
Breaking down the mechanics of an approach as an instructor.
Instrument procedures with emphasis on instruction.
Attitude instrument flight.
Recovery from unusual attitudes as an instructor.
Techniques of instruction during Precision and non-precision approaches.

Performance Standards. BIP(UI) will conform to instructional techniques set forth by the squadron Standardization Board and/or applicable SOPs/directives. BIP(UI) will be prepared to discuss the seven critical skills of CRM as applicable to each event. BIP(UI) shall fly pattern within 50' and 10 kts of briefed altitude/airspeed. Land within 2 rotors of designated landing point. BIP(UI) shall conduct one of each familiarization maneuver with emphasis on instructional techniques. Conduct a minimum of 5 landings which shall consist of a precision approach, a normal approach, a hover and a no hover landing, and a max gross weight takeoff and landing. Simulated high GW takeoffs and landings power shall be limited to 5 percent above 10' hover power. Maintain safe obstacle clearance. All of the above should be done while emphasizing instructional techniques during the conduct of each maneuver.

External Syllabus Support. WST/APT

SBIP-5101 1.5 * B 1 WST/APT S D

Goal. Introduce general instructional techniques for EXT and CQ events.

Requirements

Discuss:
CRM during initial EXT and CQ events.
Comfort level during externals.
Instructor ATF writing responsibilities.
Proper ATF writing.
Instructor SA vs student SA
Single and dual point operations with emphasis on instructional techniques.
Preflight load computations, SPPC/OPC and in-zone power computations.

Simulated emergency procedures during EXT and CQ events.
Instructor comfort level and when to intervene during student performed maneuvers.
Actual emergency procedures during EXT and CQ events
Aircraft EXT and CQ limitations.
Feet wet/landing checklist.
Closure rate with the ship.
Wind envelopes.
Aircraft lighting procedures.
Deck markings.
LSE signals.
Voice procedures/Lost communication procedures.
Shipboard landing patterns.
Shipboard holding patterns.
Shipboard instrument patterns.
Shipboard emergencies.
Air space control in the shipboard environment.
Techniques of instruction WRT to movement around the ship.

Introduce:
Single and dual point operations with emphasis on instructional techniques.
Breaking down the mechanics of a precision hover, pick up and delivery of an external load.
Day CQ with emphasis on instructional techniques.

Review: Any previously introduced maneuvers as necessary.

Performance Standards. BIP(UI) will conform to instructional techniques set forth by the squadron Standardization Board and/or applicable SOPs/directives. BIP(UI) will be prepared to discuss the seven critical skills of CRM as applicable to each event. For external operations, BIP(UI) shall execute five pickups and deliveries or demonstrate proficiency as defined by the ability to fly within 50’ and 10 kts of briefed altitude and airspeed, and deliver load within 5 meters of intended point of delivery and +/- 10 degrees of assigned heading while emphasizing instructional techniques. For shipboard operations, BIP(UI) shall conduct all communications with HDC and Tower. Execute proper cockpit switchology. Remain oriented around the landing pattern relative to the BRC. Fly pattern within 50’ and 10 kts of briefed altitude/airspeed. Conduct a minimum of 5 landings.

Prerequisites. BIP-5100.

External Syllabus Support. WST/APT

BIP-5110 1.5 * B E 1 CH-53 A D

Goal. Introduce techniques of instruction for day FAM, CAL, and INST events. The focus should be on instructional techniques and performance deviation recognition and analysis.

Requirements

Discuss:
Same as 5100.

Local course rules.

Introduce: Same as SBIP-5100.

Review: Same as SBIP-5100.

Performance Standards. Same as SBIP-5100.

Prerequisites. BIP-5101.

6. Terrain Flight Instructor (TERFI)

a. Purpose. To develop qualified instructor pilots for day terrain flight.

b. General

(1) All IUT flights shall be flown with a designated TERFI.

(2) All IUTs shall be TERF qualified and current per T&R Program Manual.

(3) All IUTs shall be designated section leader.

(4) The squadron will ensure that the IUT is prepared for certification. The certification stage of the flight syllabus must be complete within 6 months following the first IUT flight. If 6 months have elapsed since completion of any IUT flight, that flight must be reflown prior to completing the final certification flight.

c. Recertification

(1) Previously certified CH-53 TERFIs returning to the CH-53 requiring Refresher or Modified Refresher training as defined in the T&R Program Manual must be recertified by a TERFI. Upon recertification, the designation may be made at the discretion of the squadron commanding officer. The following comprises the re-certification course:

(a) The IUT must meet all prerequisites listed previously.

(b) The IUT must successfully complete a squadron generated TERFI exam administered by a TERFI.

(c) The IUT must complete the TERF-5202E flight evaluated by a TERFI.

(2) Pilots certified as a TERFI in an aircraft other than the CH-53 who transition to the CH-53 as defined in T&R Program Manual must complete the entire CH-53 TERFI Certification Course previously listed.

(3) Pilots certified as a TERFI converting within the CH-53 series who do not require Refresher training as defined in the T&R Program Manual maintain their TERFI certification and may be designated a TERFI at the discretion of the Squadron commanding officer.

d. Crew Requirements. IP/IUT/CC/AO.

e. Academic Training The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed prior to starting the Terrain Flight Instructor stage.

Academic: ACAD-5000. The IUT will review and be capable of presenting the following classes:

(a) ACAD-2011

(b) ACAD-2017

(c) ACAD-2020

(d) ACAD-4000

f. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Terrain Flight Instructor stage:

Flight: Core Skill and Mission Skill complete
Designation/Qualification: BIP, Section Lead

(a) The academic syllabus shall be completed within 60 days prior to beginning the certification stage of the flight syllabus.

(b) The IUT will successfully complete a squadron generated TERFI exam, administered by a TERFI, prior to beginning the certification stage of the flight syllabus. The minimum-passing grade for the exam is 80 percent.

(c) The IUT will present to a TERFI one of the classes listed above, as determined by the TERFI, before completing the certification stage of the flight syllabus.

TERF-5200 1.5 * B 1 CH-53 A D

Goal. Demonstrate the ability to conduct flight navigation in the contour and low level profiles with emphasis on instructional techniques.

Requirements

Discuss:
- CRM in a TERF environment.
- Comfort Level.
- Instructional techniques.
- Low altitude emergencies.
- Weapons and ASE employment.
- Visual illusions associated with TERF flight.

Review:
- Operational power checks.
- TERF turns, rolls, contour/low level quick stops, bunts.
- Contour profiles.
- Low altitude emergencies.
- TERF navigation techniques and responsibilities.

Performance Standards. Same as TERF-2310.

Prerequisites. 2310 proficient, 5000, 5110, 6203,

Range Requirements. Approved TERF maneuver area/route. CAL/MAL site.

TERF-5201 1.5 * B 1 CH-53 A D

Goal. Demonstrate the ability to conduct all terrain flight maneuvers while flying with an external load, emphasizing instructional techniques.

Requirements

Discuss:
- Instructional techniques.
- Crew coordination in contour flight with externals.
- Voice and visual signals.
- Flight envelopes of various loads.
- Cargo jettison procedures.
- Low altitude emergencies.
- Single/dual engine operations (with & without the load).
- Illusions of terrain flight.
- HST requirements.

Review:
- All TERF maneuvers with external loads emphasizing requirements for early initiation of maneuvers and flight profile corrections to prevent pilot induced/assisted oscillations.
- Operational power checks.

Performance Standards. Same as EXT-2412.

Prerequisite. EXT-2410 if done single point or EXT-2411 if done dual point, EXT-2412 proficient, 5000, 5110, 6203.

Range Requirements. Approved TERF maneuver area/route. CAL/MAL site.

External Syllabus Support. HST.

TERF-5202 1.5 * B,R E 2 CH-53 A D

Goal. Evaluate the IUT's ability to perform and instruct all phases of terrain flight and terrain flight navigation.

Requirement

Discuss:
- Crew coordination.
- Section TERF considerations.
- Instructional techniques.
- Comfort level.
- Illusions of terrain flight.
- Low altitude emergencies.
- Single/dual engine operations.
- TERF/navigation techniques and responsibilities.
- Weapons and ASE employment.

Review:
Operational power Checks.
All TERF maneuvers.
Performance Standards. Same as TERF-2311.

Prerequisites. Proficient TERF-2311, TERF-5200* (Unless previously designated as a TERFI), and TERF-5201.

7. Aerial Refueling Instructor (ARI)

a. Purpose. To develop qualified instructor pilots for HAAR events using a standardized flight training program.

b. General

(1) Complete flights in numerical order.

(2) IUT shall demonstrate instruction and proficiency in the observation, astern, refuel, and disconnect positions on both sides of the tanker, from the left seat.

(3) ARIs do not require NSI designation.

(4) An ARI is required to certify additional squadron ARIs.

(5) The completion of ARI-5300 and ARI-5301 satisfies the requirements for designation as an ARI at the discretion of the CO.

c. Recertification

(1) Previously certified CH-53E ARIs returning to the CH-53E requiring Refresher or Modified Refresher training as defined in T&R Program Manual must be recertified by an ARI. Upon recertification, the designation may be made at the discretion of the Squadron commanding officer. The following comprises the recertification course:

(2) The IUT must meet all prerequisites listed previously.

(3) The IUT must complete the HAAR-5301E flight evaluated by an ARI.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed prior to starting the Helicopter Air to Air Refueling Instructor stage.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Helicopter Air to Air Refueling Instructor stage:

Academic: Present ACAD-2022 to an ARI.
Flight: HAAR-2640 and TAC-4942
Designation/Qualification: SL

ARI-5300 1.5 * B 1 CH-53E A D

Goal. Demonstrate HAAR proficiency and instructional technique in the day environment.

Requirements

Discuss:
Instructional techniques.
CRM.
Comfort level.
Decision points.
EMCON refueling procedures.
Long range fuel management considerations.
ATP-56(B)

Review:
HAAR procedures.
HAAR communications.
Emergency procedures.
Flight briefing.
NATOPS HAAR envelope chart.
ATP-56(B)

Performance Standards. Demonstrate ability to maintain a stable astern position (3-5 feet behind the basket). All misses controlled and smooth. Recognize and correct unsafe closure rates/control inputs. Smooth, controlled movement from contact to refuel position. Demonstrate plugging in a turn. Demonstrate a controlled miss with emphasis on instructional techniques and recovery. IUT should plug on both sides of tanker.

Prerequisites. 2022 to an ARI, 4942, 6203, and Proficient 2611.

Range Requirements. Special use airspace.

External Syllabus Support. KC-130.

ARI-5301 1.5 * B,R E 1 CH-53E A NS

Goal. Demonstrate NS HAAR proficiency and instructional technique.

Requirements

Discuss:
Same as ARI-5300 with NVG considerations.
NS EMCON refueling procedures and signals.
Depth perception.
NS considerations.
Visual illusions/Vertigo.
Lighting configurations (Marine Corps/Joint).

Review:
Same as ARI-5300 with NVG considerations

Performance Standards. Demonstrate ability to maintain a stable astern position (3-5 feet behind the basket). All misses controlled and smooth. Recognize and correct unsafe

closure rates/control inputs. Smooth, controlled movement from contact to refuel position. Demonstrate a controlled miss with emphasis on instructional techniques and recovery. IUT should plug on both sides of tanker.
Prerequisites. 2640 proficient. 5300* (* Unless previously certified CH-53E ARI).

Range Requirements. Special use airspace.

External Syllabus Support. KC-130.

8. CH-53D Core Skill Introduction Instructor (FRSI-D)

a. Purpose. To develop qualified instructor pilots for day events using a standardized flight training program.

b. General

(1) Fly IUT flights with a designated FRSI-D.

(2) Pilots undergoing instructor training should fly in the right seat.

(3) All IUTs shall complete every event of the IUT training syllabus.

(4) Individuals shall be TERFI and Section Leader designated prior to starting the CSII Syllabus.

(5) The MAG-24 standardization evaluator shall certify all FRSIs-D prior to designation. The MAG-24 standardization evaluator shall conduct an annual standardization check for all FRSIs-D.

c. Training Objectives. All IUT flights emphasize instructional techniques, briefing, and debriefing. The IUT will be capable of demonstrating all training objectives listed for the referenced syllabus flight. Emphasis on all flights is on training objectives, method of instruction, and student problem areas. At the completion of this stage of training, the Pilot will be designated an FRSI-D and is qualified to instruct CH-53D Core Skill Introduction CH-53E to D Series Conversion and Refresher events.

d. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Core Skill Introduction Instructor stage:

Academic: See event.
Flight: See event.
Designation/Qualification: Section Lead, TERFI.

FRSID-5400 2.0 * B 1 CH-53D A D

Goal. Introduce the IP brief and demonstrate standardized procedures for flight planning, preflight, and all day FAM stage maneuvers. Review basic instrument maneuvers, IFR planning, filing, and airway procedures.

Requirements

Discuss:
- CRM.
- Preflight and postflight pilot briefings.
- Cockpit procedures.
- Techniques of instruction.
- Common mistakes.
- Local course rules.
- CRM.
- IFR planning.
- Filing a DD-175.
- Airway procedures.
- Precision/non-precision approaches.

Review:
- All FAM procedures and maneuvers.
- Emergency Procedures.
- Instrument checklist.
- Attitude instrument flight.
- Standard rate climbing and descending turns.
- Recovery from unusual attitudes.
- Vertical S-1 pattern.
- Oscar pattern.

Performance Standards. Per CH-53D NATOPS and MAG-24 Standardization Manual. Instructors shall emphasize the ability to teach using all appropriate references and SOPs, evaluate problems, and apply corrective instruction. Fly a minimum of one precision and one non-precision approach.

Prerequisites. FAM-2105 proficient, TERF-5202, SL-6203

FRSID-5401 2.0 * B 1 CH-53D A D

Goal. Review CAL and external instruction techniques.

Requirements

Discuss:
- CRM.
- Comfort level.
- Single point external operations.
- Load computations, preflight and in-flight.
- Emergency procedures.
- Aircraft limitations.

Review:
- All CAL stage maneuvers.
- Single point external operations.

Performance Standards. Per CH-53D NATOPS and FRS Standardization Manual. Execute five pickups and deliveries or demonstrate proficiency as defined by the ability to fly within 50’ and 10 kts of briefed altitude and airspeed, and deliver load within 5 meters of intended point of delivery and +/- 10 degrees of assigned heading.

Range Requirements. Approved CAL/MAL site.

Prerequisites. FAM-2105 and EXT-2410 proficient, FRSID-5400.

External Syllabus Support. HST, single point loads.

FRSID-5402 1.5 B,R E 1 CH-53D A D

Goal. Flight instructor standardization check.

Requirements

Discuss:
CRM.
CH-53D limitations.
Course Rules.
MAG-24 Standardization Manual.
Instruction techniques.

Performance Standards. Per CH-53D NATOPS and MAG-24 Standardization Manual. The MAG-24 standardization evaluator shall evaluate this event.

Prerequisites. NATOPS-6000, NATOPS-6001, FRSID-5401.

Range Requirements. Approved CAL/MAL site.

9. FRS Day Instructor Training (FRSI-E)

a. Purpose. To develop qualified instructor pilots for events using a standardized flight training program.

b. General

(1) Fly IUT flights with a designated FRS Instructor Pilot.

(2) Pilots undergoing instructor training should fly in the right seat.

(3) All IUTs should complete every event of the IUT training syllabus.

c. Training Objectives. All IUT flights emphasize instructional techniques, briefing, and debriefing. The IUT will be capable of demonstrating all training objectives listed for the referenced syllabus flight. Emphasis on all flights is on training objectives, method of instruction, and student problem areas. At the completion of this stage of training, the Pilot will be designated an Instructor Pilot (IP) and is qualified to instruct all day and night unaided Core Skill Introduction events.

d. Prerequisites. The following events/designations are prerequisites prior to the commencement of the FRS instructor stage:

Academic: N/A
Flight: N/A
Designation/Qualification: Section Lead, TERFI.

FRSIE-5500 1.5 * B 1 CH-53E A D

Goal. Introduce the IP brief and demonstrate standardized procedures for flight planning, preflight, and all day FAM stage maneuvers.

Requirements

Discuss:
- CRM.
- Preflight and postflight pilot briefings.
- Cockpit procedures.
- Techniques of instruction.
- Local course rules.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual. Instructors shall emphasize the ability to teach using all appropriate references and SOPs, evaluate problems, and apply corrective instruction.

Prerequisite: TERF-5202 and SL-6203.

FRSIE-5502 2.0 * B 1 CH-53E/WST/APT S/A (N)

Goal. Review basic instrument maneuvers, IFR planning, filing, and airway procedures.

Requirements

Discuss:
- CRM.
- IFR planning.
- Filing a DD-175.
- Airway procedures.
- Precision/non-precision approaches.

Review:
- Instrument checklist.
- Attitude instrument flight.
- Standard rate climbing and descending turns.
- Recovery from unusual attitudes.
- Vertical S-1 pattern.
- Oscar pattern.
- Precision and non-precision approaches.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisite: TERF-5202 and SL-6203

FRSIE-5503 1.5 * B 1 CH-53E A D

Goal. Review CAL instruction techniques.

Requirements

Discuss:

CRM.
Comfort level.

Review:
All CAL stage maneuvers.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Range Requirements. CAL/MAL site.

Prerequisites. FRSI-5500

FRSIE-5504 1.5 * B 2 CH-53E A D

Goal. Review formation instructional techniques and formation stage maneuvers emphasizing closure rates and radius of turn.

Requirements

Discuss:
Loss of visual contact.
Parade position.
Cruise turn principles.
Section CALs principles.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. FRSI-5500

FRSIE-5505 1.5 * B 1 CH-53E A D

Goal. Review external operation instructional techniques.

Requirements

Discuss:
CRM.
Single and dual point operations.
Load computations, preflight and in-flight.
Emergency procedures.
Aircraft limitations.

Review:
Single and dual point operations.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual. Execute five pickups and deliveries or demonstrate proficiency as defined by the ability to fly within 50’ and 10 kts of briefed altitude and airspeed, and deliver load within 5 meters of intended point of delivery and +/- 10 degrees of assigned heading.

Range Requirements. Approved CAL/MAL site.

External Syllabus Support. HST, single point loads.

Prerequisites. FRSI-5500

FRSIE-5506 1.5 * B,R E 1 CH-53E A (N)

Goal. Flight instructor standardization check.

Requirements

Discuss:
CRM.
CH-53E limitations.
Course Rules.
FRS Standardization Manual.
Instruction techniques.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. FRSI-5500 through FRSI-5505

10. Advanced Instructor Events

a. There are 4 graduate level courses that qualify instructors for specific portions of the T&R syllabus. These courses are as follows:

(1) NS Familiarization Instructor (NSFI).

(2) Defensive Measures Instructor (DMI).

(3) NS Instructor (NSI).

(4) Weapons and Tactics Instructor (WTI).

b. The MAWTS-1 Course Catalog contains the POIs and the appropriate training codes, in addition to the POIs and training codes for TERFI and ARI. Additionally, the WTI course catalog contains the POI for a WTI. The community considers each particular stage of the T&R syllabus sufficient to maintain proficiency as an instructor.

NSFI-5600-5603. Refer to MAWTS-1 CH-53 Course Catalog.

DMI-5700-5702. Refer to MAWTS-1 CH-53 Course Catalog.

NSI-5800-5805. Refer to MAWTS-1 CH-53 Course Catalog.

WTI. Refer to MAWTS-1 WTI Course Catalog.

11. Flight Leadership Standardization Evaluator (FLSE)

a. Purpose. To designate qualified pilots as Flight Leadership Standardization Evaluators (FLSE) in accordance with the T&R Program Manual.

b. General

(1) 2d MAW is the FLSE model manager for standardization across the CH-53 community. Wing designated FLSE Program Coordinators will coordinate with the FLSE Model Manager and MAWTS-1 for CH-53 standardization across the wing.

(2) MAG Commanding Officers will designate all MAG FLSEs. The MAG Commanding Officer will designate a senior FLSE to ensure standardization within the MAG and to coordinate with the Wing FLSE Program Coordinator. The senior MAG FLSE should be assigned in the MAG standardization office to the maximum extent possible. In Wings where all CH-53 assets exist in one MAG, the MAG senior FLSE can also be the Wing FLSE Program Coordinator.

(3) FLSEs shall administer at least the POI evaluation flight in the aircraft. The FLSE will be from a unit external to that of the prospective flight leader. FLSE certification of prospective flight leaders for deployed units or locations where a FLSE from a different unit is not available to conduct the certification may be conducted by an internal FLSE with MAG/MAGTF Commander approval. There is no requirement to reevaluate the event with an external FLSE upon return from deployment.

(4) Following the evaluation event, the FLSE will debrief the Squadron commanding officer on the event. Debriefs will address both the performance of the proposed flight leader and the degree to which the squadron has complied with the POI outlined in this manual for the applicable flight leadership stage. Final authority to designate flight leadership qualifications remains with the squadron commanding officer.

(5) All FLSEs will be nominated by their Squadron commanding officer or the MAG Commanding Officer for pilots on the MAG Staff.

(6) FLSEs shall complete annual standardization training per CH-53 Flight Leadership Program Model Manager requirements.

c. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, chalk talks, and lectures which shall be completed prior to being designated a Flight Lead Standardization Evaluator.

d. Prerequisites. Nominees will meet the following prerequisites: AMC, AFL, or WTI.

Designation of FLSE	Highest flight leadership designation evaluated
AMC	AMC
AFL	AFL
WTI	HAC, Section Leader, Division Leader

e. Flight Training. No check flight for the prospective FLSE is required for certification. Upon completion of the academic training, prospective FLSEs should observe a designated FLSE conducting an evaluation flight prior to designation by the MAG Commanding Officer.

12. Contract Instructor Training Stage (CI)

1. Purpose. To develop qualified contract instructor (CI) pilots for core skill introduction (1000 phase) day events using a standardized flight training program.

2. General. The below requirements shall not supersede any current contracts or legal agreements. However, this document shall be adhered to for the development and establishment of new contracts as of the signing of this manual.

a. CIs shall have at least 1000 hours total pilot time and, at a minimum, hold prior designation of aircraft commander in an H-53.

b. 1000-level S, S/A, or A/S flights may be flown under the instruction of a designated CI.

c. 5000-level CIUT flights shall be flown in the simulator under the instruction of a designated Standardization Pilot.

d. CIUTs should fly in the right seat.

e. Every event in the CIUT training syllabus shall be completed prior to designation as a CI.

f. While it is preferred that all CIs be qualified CRMIs, at a minimum all CIUTs shall be designated CRM(F) prior to designation as a CI.

g. All CIUTs shall complete an Instrument Evaluation, to include all prerequisites in accordance with OPNAV 3710.7 and the NATOPS Instrument POI, prior to designation as a CI.

h. Annual requirements:

(1) CRM ground class.

(2) Instrument minimums and requirements (all requirements able to be met in simulator) in accordance with OPNAV 3710.7 and the NATOPS Instrument POI, to include an instrument evaluation given by a uniformed NATOPS Instrument Evaluator or Instructor.

(3) Open and closed book NATOPS tests.

(4) Annual NATOPS evaluation given by a uniformed NATOPS Evaluator or Assistant NATOPS Instructor in accordance with the NATOPS POI.

i. All CIUT flights shall emphasize instructional techniques, briefing and debriefing, training objectives, methods of instruction, current TTPs and common student errors. The CIUT will be capable of demonstrating all training objectives listed in the T&R for the applicable syllabus flight.

j. At the completion of this stage of training, the CIUT will be designated a Contract Instructor Pilot (CI) by the MATSS OIC and is qualified to instruct day Core Skill Introduction (1000) level simulator events only.

k. All initial 2000-6000 level simulated events require a uniformed IP.

l. CH-53E CIUT(s) will do the CIUTE events and CH-53D CIUT(s) will do the CIUTD events.

l. Crew Requirement. IP/CIUT.

m. Academic/Ground Training

(1) CH-53E CIUT: CBT 0001-0024, ACAD 0100-0109.

(2) CH-53D CIUT: ACAD 0200-0207.

CIUT-5900 1.0 * CIUTE, CIUTD WST/APT S D

Goal. Introduce normal cockpit procedures, start procedures, and shutdown procedures.

Requirement

Introduce:
- Pre-start checklist.
- Post APP start checklist.
- Starting engines/rotors checklist.
- Pre-taxi checklist.
- Cargo ramp and door procedures checklist.
- Operation of engine trim switches.
- Cruise checklist.
- Fuel transfer checklist.
- Monitoring of instruments (fuel gauges).
- Operation of the ICS and radios.
- Fuel management.
- Pre-landing checklist.
- Shutdown checklist.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CBT and ACAD complete CIUTE, ACAD COMPLETE FOR CIUTD

External Syllabus Support. WST/APT.

CIUT-5901 1.0 * CIUTE, CIUTD WST/APT S D

Goal. Introduce aircraft emergencies, normal ground and flight procedures. Review start/shutdown procedures.

Requirement

Introduce:
- Aircrew brief.
- External fuel tank jettison.
- Cargo ramp/door operation.
- Engine start emergencies.
- Vertical takeoff to a hover.
- Transition to forward flight.
- Normal approaches to a hover and normal vertical landing.
- Engine compartment fire on the ground.
- Single and/or dual engine compartment fires in-flight.
- Simultaneous engine compartment fires in-flight.
- APP or cabin heater fire.
- Fuselage fire.
- Fuel dump.

Practice:

Start/shutdown procedures.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.
Prerequisites. CBT-0018 FOR CIUTE

External Syllabus Support. WST/APT

CIUT-5902 1.0 * CIUTE, CIUTD WST/APT S D

Goal. Introduce engine malfunctions. Practice cockpit and flight procedures, start/shutdown checklist and all previously introduced emergencies.

Requirement

Introduce:
Blade/pylon fold system switchology.
CH-53 NATOPS brief/CH-53 NATOPS debrief.
Maximum performance takeoff.
Straight-in approach.
Engine restarts during flight.
Crosswind landing.
Single engine failure (hover and takeoff).
Effects of gross weight on single and/or dual engine performance.
Single and/or dual engine failure at altitude.
Engine shutdown in-flight.
Compressor stall.
Engine power loss.
Engine post-shutdown fire.

Practice:
Cockpit and flight procedures.
Start/shutdown checklist.
All previously introduced emergencies.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5901

External Syllabus Support. WST/APT.

CIUT-5903 1.0 * CIUTE, CIUTD S D

Goal. Introduce running landings and autorotations. Practice aircraft emergencies, previously introduced flight procedures and normal cockpit procedures.

Requirement

Introduce:
Running takeoff/landing.
Wave-off.
Single and/or dual engine wave-off/landing.
Power recovery autorotation.

High angle of bank maneuvering and the effects of variables (angle of bank, power required, descent rate, gross weight, temperature, density altitude, etc.) on the performance of the aircraft.
Dual engine failure at altitude.
Engine overspeed.
Single and/or dual engine failure (hover/takeoff).
Nf flex shaft failure.

Practice:
Aircraft emergencies.
Previously introduced flight procedures.
Normal cockpit procedures.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5902

External Syllabus Support. WST/APT.

CIUT-5904 1.0 * CIUTE, CIUTD WST/APT S D

Goal. Introduce gearbox malfunctions. Introduce basic CRM concept. Practice previously introduced emergency and flight procedures.

Requirement

Introduce:
Engine chip detector light.
Control linkage failure.
Power deterioration.
Engine oil pressure high caution light, high oil temperature, engine oil quantity low.
Nose gearbox chip detector light/failure.
Accessory gearbox oil system failure.
Accessory gearbox chip detector light/failure.
Main gearbox oil system failures.
Main gearbox chip locator light/failure.
Power train failures.
Tail rotor drive system failure, tail rotor gearbox or intermediate gearbox failure, and tail rotor or intermediate gearbox chip detector light.

Practice:
Previously introduced emergencies.
Flight procedures.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5903

External Syllabus Support. WST/APT.

CIUT-5905 1.5 * CIUTE, CIUTD WST/APT S D

Goal. Introduce communication skills IAW CRM techniques. Practice all ground, flight, and aircraft emergency procedures.

Requirement

Introduce:
- Obstacle takeoff and approach.
- Smoke and fume elimination.
- AFCS computer malfunctions/mode failures , total AFCS failure.
- BIM/Blade Pressure caution light (in-flight).
- Approach and landing with tail rotor control system failure.
- Tail rotor tandem servo malfunction.
- Fuel filter bypass light.
- Hydraulic fire in main rotor pylon.
- Use of GPS system.
- Sender/receiver responsibilities and overcoming communication barriers. Discuss ICS switchology and techniques, visual and standard terminology.

Practice:
- Ground, flight, and aircraft emergency procedures.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5904

External Syllabus Support. WST/APT.

CIUT-5906 1.0 * CIUTE, CIUTE WST/APT S D

Goal. Conduct Progress Check. Introduce communication skills IAW CRM techniques.

Requirement

Introduce:
- Ground resonance procedure.
- Power settling (vortex ring state).
- Settling with power.
- Dynamic rollover.
- Electrical fire.
- Alternating/Direct current system failures.
- Rotor damper failure.
- Lightning strike.
- Most conservative response rule, the two-challenge rule, and task saturation with compound emergencies.

Performance Standards. Per CH-53 NATOPS and Standardization

Manual.

Prerequisites. CIUT-5905

External Syllabus Support. WST/APT.

CIUT-5907 1.5 * CIUTE, CUITD WST/APT S D

Goal. Introduce engine failure(s) at altitude, running takeoffs and landings, precision approaches.

Requirement

Discuss:
- Engine system/limitations.
- Engine overspeed/Nf flex shaft failure.
- Compressor stall.
- Engine power loss.
- Engine high/low oil pressure.
- Engine high oil temperature.
- Engine chip detector light.
- Control linkage failure.
- Effects of gross weight on single and/or dual engine performance.
- Engine shutdown in flight/fuel siphoning.
- Engine restart in flight.

Introduce:
- Simulated single and/or dual engine failure at altitude.
- Running takeoffs and landings.
- Precision approaches to a hover.

Practice:
- Cockpit procedures.
- Hover/low work.
- Previously introduced FAM maneuvers.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5906

External Syllabus Support. WST/APT.

CIUT-5908 1.5 * CIUTE, CUITD WST/APT S D

Goal. Introduce simulated partial/total AFCS failure. Practice FAM and previously introduced simulated emergency procedures.

Requirement

Discuss:
- AFCS system/functions.
- Inner/outer loop.
- AFCS servo functions.
- AFCS servo hardover.

Longitudinal bias actuator.
FAS functions.
Trim functions.
Desensitizer failure.
AFCS computer malfunctions/mode failures.
Total AFCS failure.
Ground resonance.

Introduce:
Obstacle takeoff, approach.
Partial/total AFCS failure.
Practice autorotations (Refreshers, Modified Refreshers, and Series Conversions only)

Practice:
Previously introduced FAM maneuvers.
Simulated emergency procedures.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5907

External Syllabus Support. WST/APT.

CIUT-5909 1.5 * CIUTE, CUITD WST/APT S D

Goal. Practice all FAM maneuvers, and simulated emergency procedures.

Requirement

Discuss:
Transmission system/limitations.
Chip detection system.
Nose gearbox chip location light.
Nose gearbox failure.
Accessory gearbox oil system failure.
Accessory gearbox chip locator light.
Accessory gearbox failure.
Main gearbox chip locator light.
Main gearbox oil system failure.
Loss of main gearbox lubrication.
Power train failure.
Tail rotor or intermediate gearbox chip detector light.
Tail rotor gearbox or intermediate gearbox failure.
Tail rotor drive system failure.
Pylon unsafe for flight light.

Practice:
All FAM maneuvers.
Simulated emergency procedures.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5908

External Syllabus Support. WST/APT.

CIUT-5910 1.5 * CIUTE, CUITD WST/APT S D

Goal. Review all FAM maneuvers and simulated emergency procedures.

Requirement

Discuss:
- Ground cushion and ground effect.
- Effect of wind on translational lift.
- Effect of temperature and pressure altitude on power available.
- Power required for flight at various airspeeds (hover to V_{MAX}).
- Effects of gross weight, altitude, temperature, turbulence, and wind on power required for hover both in and out of ground effect.
- Effects of gross weight, altitude, temperature, and turbulence on blade stall.
- Maximum speed level flight with turns for existing ambient conditions.
- Conditions leading to power settling and settling with power.
- Landing gear system.
- Landing gear system failure.
- Bearing Monitor System.
- Bearing VIB or TEMP DETECT and LIMIT.
- BMS fault isolation.

Practice:
- All FAM maneuvers.
- Simulated emergency procedures.

Performance Standards. IAW CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5909

External Syllabus Support. WST/APT.

CIUT-5911 1.5 * CIUTE, CUITD WST/APT S N

Goal. Introduce FAM maneuvers at night.

Requirement

Discuss:
- Aircraft lighting systems.
- Electrical failures.
- Electrical power supply system.
- Single and multiple generator failure.
- Single and dual rectifier failure.
- Minimum aircraft equipment required for night flight.

Introduce:
Normal procedures and maneuvers under conditions of darkness at a lit airfield.
Night basic airwork, low work, and landings with various light configurations.
Tip path plane awareness.
HNVS operation.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5910

External Syllabus Support. WST/APT.

CIUT-5912 1.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce basic instruments, TACAN approaches, and decision making IAW CRM techniques.

Requirement

Introduce:
Instrument flight checklist.
Instrument takeoff.
Level speed change.
Standard rate timed turns.
Vertical S-1 pattern.
Oscar pattern.
Turn pattern.
TACAN approach.
Point-to-point navigation.
Holding.
Decision making in the CH-53 IAW CRM techniques.
Troubleshooting strategies for degraded aircraft systems in IMC.

Performance Standards. IAW CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. CIUT-5911

External Syllabus Support. WST/APT.

CIUT-5913 1.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce partial panel flight, VOR/ADF procedures and adaptability/flexibility per CRM techniques.

Requirement

Introduce:
Partial panel flight.
VOR/ADF approach.
Holding.
Adaptability/flexibility in the CH-53E per CRM techniques.

Discuss:
Changes in mission from the briefing, crew-member incapacitation, and overcoming personality differences within the cockpit and cabin.

Practice:
TACAN procedures.

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. CIUT-5912

External Syllabus Support. WST/APT.

CIUT-5914 1.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce ILS/localizer approaches and mission analysis per CRM techniques. Practice aircraft emergency procedures.

Requirement

Introduce:
ILS and localizer approaches.
Mission analysis in the CH-53 per CRM techniques.

Discuss:
The three stages of mission analysis, and standardized procedures.

Practice:
TACAN and VOR approaches.
Previously introduced emergency procedures.

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. CIUT-5913

External Syllabus Support. WST/APT.

CIUT-5915 1.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce unusual attitudes and recovery procedures, PAR, ASR approaches and situational awareness considerations in the CH-53 per CRM techniques. Practice aircraft emergency procedures.

Requirement

Introduce:
Unusual attitudes and recovery procedures.
PAR and ASR approaches.
Situational awareness considerations in the CH-53 per CRM techniques.
Task fixation during an instrument approach with an

emergency or degraded system.
Practice:
Aircraft emergency procedures.

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. CIUT-5914

External Syllabus Support. WST/APT.

CIUT-5916 1.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce radio failure, ATC procedures in IMC conditions and leadership principles per CRM techniques.

Requirement

Introduce:
HF Radio.
IFR departure.
COMM/NAV failure under IMC.
Single and/or dual engine missed approach.
IFR canned route (Flight planning).
Leadership principles in the CH-53E per CRM techniques.
Command authority, crewmember relationships in the cockpit and cabin, and division of tasks.

Performance Standards. Per CH-53E NATOPS, Instrument NATOPS, FLIP publications and FRS Standardization Manual.

Prerequisites. CIUT-5915

External Syllabus Support. WST/APT.

CIUT-5917 2.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce basic instrument, precision, and non-precision procedures.

Requirement

Discuss:
Approach minimums and helicopter-only approaches.
BDHI/course indicator switches
ILS/LOC and LOC back course approaches
Instrument checklist
Inadvertent entry into IMC conditions
Lost plane procedures
Lighting strike
Emergency descent
Use/Failure of AFCS functions in IMC conditions

Introduce:
Time-distance checks.
ADF procedures.

Operation of the transponder modes.
VOR procedures.
TACAN procedures.
Point-to-point navigation.
ILS/LOC procedures
PAR procedures

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. CIUT-5916

External Syllabus Support. WST/APT.

CIUT-5918 1.5 * CIUTE, CUITD WST/APT S D

Goal. Conduct IFR flight to an outlying airfield. Instrument progress check.

Requirement. Plan, file, brief, and fly an IFR flight away from home field.

Discuss:
Range performance charts in the CH-53 NATOPS Manual.

Performance Standards. Per CH-53 NATOPS, Instrument NATOPS, FLIP publications and Standardization Manual.

Prerequisites. CIUT-5917

External Syllabus Support. WST/APT.

CIUT-5919 2.0 * CUITD WST/APT S D

Goal. Introduce CH-53D basic instrument, TACAN, and PAR procedures.

Requirement

Discuss:
Approach minimums and helicopter-only approaches.
Time-distance checks.
Inadvertent entry into IFR conditions.
Lost plane procedures.
Lightning strike.
Emergency descent.
BIM/IBIS blade systems.
BIM/Blade pressure caution light in flight.

Introduce:
Instrument checklist.
Instrument takeoff (ITO).
Attitude instrument flying.
Standard rate/half standard rate turns.
Recovery from unusual attitudes.
Vertical S-1.
Oscar patterns.

Partial panel.
TACAN procedures.
PAR procedures.
GPS procedures.
Point-to-point navigation.
AFCS failure.
Night Systems (if required).

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5918

External Syllabus Support. WST/APT.

CIUT-5920 1.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce use of flight planning software, GPS and HNVS.

Requirement. Utilize flight planning software to develop a route card and load the GPS Mission Data Loader with a minimum of six waypoints.

Discuss:
GPS set-up, programming, operation, and use.

Introduce:
Use of Global Positioning System (GPS) and HNVS operation.

Performance Standards. Per CH-53 NATOPS and FRS Standardization Manual.

Prerequisites. CIUTD-5919

External Syllabus Support. WST/APT.

CIUT-5921 1.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce day formation principles.

Requirement

Discuss:
Aircraft lighting, closure rate, recovery from unusual attitudes, CRM, and comfort level.

Introduce:
Section takeoffs, cruise principles, crossovers, and section approaches.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisites. CIUT-5920

External Syllabus Support. WST/APT.

CIUT-5922 1.5 * CIUTE, CUITD WST/APT S D

Goal. Practice precision approaches and introduce their application to CALs.

Requirement

Discuss:
- Landing gear system/limitations.
- Dynamic rollover.
- Slope landing technique/limitations.
- Loss of visual reference during landing.
- Power settling(Vortex Ring State).
- Settling with power (Pr > Pa).
- Main and tail rotor clearance factors over sloping or uneven terrain.
- LZ considerations.

Practice:
- Precision approaches to confined areas.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisite. CIUT-5921

External Syllabus Support. WST/APT.

CIUT-5923 2.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce single point and dual point external cargo operations. Introduce communication skills between pilots and aircrew.

Requirement

Introduce:
- Single and dual point hook checks
- Operational Power Checks
- Single Point Performance checks
- Weight and Power calculations in the zone
- Cargo pickup and release procedures.
- CRM consideration for external operations.
- Voice signals/standardized terminology.
- Emergency Procedures during external operations.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisite. CIUT-5922

External Syllabus Support. WST/APT with Aircrew External Trainer if available.

CIUT-5924 1.0 * CIUTE, CUITD WST/APT S D

Goal. Introduce TERF maneuvers. Demonstrate TERF navigation. Requirement

Discuss:
- TERF maneuvers.
- CRM.
- Comfort level.
- Reduced reaction time.
- Emergency procedures at low altitudes.
- Climb-to-cope.
- Standardized terminology.
- Common mistakes.
- Hazard maps.
- Currency requirements.
- Blade walk-around.

Introduce:
- Operational power checks.
- Masking and unmasking.
- TERF turns.
- Rolls, bunts.
- Quick stops.
- Low level/contour profiles.
- Using a 1:50,000 scale map, demonstrate TERF navigation.

Performance Standards. Per CH-53 NATOPS, ANTTP 3-22.3-CH53, and Standardization Manual.

Prerequisites. CIUT-5923

External Syllabus Support. WST/APT.

CIUT-5925 2.0 * CIUTE, CUITD WST/APT S D

Goal. Review Core Skill Introduction training.

Requirement

Practice:
- All FAM stage maneuvers.
- Instrument stage maneuvers.
- Confined area landings.
- External cargo procedures.
- If possible, formation flight.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual. CIUT is responsible for all emergency procedures in the NATOPS Manual.

Prerequisite. CIUT-5900-5924

External Syllabus Support. WST/APT.

CIUT-5926 2.0 * CIUTE, CUITD WST/APT S D

Goal. Review Core Skill Introduction training.

Requirement
Practice:
All FAM stage maneuvers.
Instrument stage maneuvers.
Confined area landings.
External cargo procedures.
If possible, formation flight.

Performance Standards. Per CH-53 NATOPS and Standardization Manual. CIUT is responsible for all emergency procedures in the NATOPS Manual.

Prerequisite. CIUT-5925

External Syllabus Support. WST/APT.

CIUT-5927 2.0 * CIUTE, CUITD E WSTAPT S D

Goal. Evaluate systems knowledge of the CH-53 and the capability to perform maneuvers in the Core Skill Introduction phase, including high AOB maneuvers.

Requirements

Practice:
Evaluate systems knowledge of the CH-53 to include external lift systems.
Brief and demonstrate proficiency of all aircraft emergency procedures per the CH-53 NATOPS Flight Manual.
Demonstrate proficiency and the capability to perform in the Core Skill Introduction to include takeoffs, approaches, instrument procedures, emergency procedures, CALs, high AOB maneuvers, and landings.

Performance Standards. Per CH-53 NATOPS and Standardization Manual.

Prerequisite. Open and Closed book NATOPS exams. CIUT-5926.

External Syllabus Support. WST/APT.

CIUT-5928 2.0 * CIUTD WST/APT S D

Goal. Introduce the IP brief and demonstrate standardized procedures for flight planning, preflight, and all day FAM stage maneuvers. Review basic instrument maneuvers, IFR planning, filing, and airway procedures.

Requirements

Discuss:
CRM.
Preflight and postflight pilot briefings.
Cockpit procedures.
Techniques of instruction.
Common mistakes.
Local course rules.

CRM.
IFR planning.
Filing a DD-175.
Airway procedures.
Precision/non-precision approaches.

Review:
All FAM procedures and maneuvers.
Emergency Procedures.
Instrument checklist.
Attitude instrument flight.
Standard rate climbing and descending turns.
Recovery from unusual attitudes.
Vertical S-1 pattern.
Oscar pattern.

Performance Standards. Per CH-53D NATOPS and MAG-24 Standardization Manual. Instructors shall emphasize the ability to teach using all appropriate references and SOPs, evaluate problems, and apply corrective instruction. Fly a minimum of one precision and one non-precision approach.

Prerequisites. CIUT-5927

External Syllabus Support. WST/APT.

CIUT-5929 2.0 * CIUTD WST/APT S D

Goal. Review CAL and external instruction techniques.

Requirements

Discuss:
CRM.
Comfort level.
Single point external operations.
Load computations, preflight and in-flight.
Emergency procedures.
Aircraft limitations.

Review:
All CAL stage maneuvers.
Single point external operations.

Performance Standards. Per CH-53D NATOPS and FRS Standardization Manual. Execute five pickups and deliveries or demonstrate proficiency as defined by the ability to fly within 50’ and 10 kts of briefed altitude and airspeed, and deliver load within 5 meters of intended point of delivery and +/- 10 degrees of assigned heading.

Range Requirements. Approved CAL/MAL site.

Prerequisites. CIUT-5928

External Syllabus Support. WST/APT with Aircrew External Trainer if available.

CIUT-5930 1.5 * CIUTD E WST/APT S D

Goal. Flight instructor standardization check.

Requirements

Discuss:
- CRM.
- CH-53D limitations.
- Course Rules.
- MAG-24 Standardization Manual.
- Instruction techniques.

Performance Standards. Per CH-53D NATOPS and MAG-24 Standardization Manual. The MAG-24 standardization evaluator shall evaluate this event.

Prerequisites. 0206, 0207 Open and closed book NATOPS exam. CIUT-5929.

External Syllabus Support. WST/APT

CIUT-5931 1.5 * CIUTE WST/APT S D

Goal. Introduce the IP brief and demonstrate standardized procedures for flight planning, preflight, and all day FAM stage maneuvers.

Requirements

Discuss:
- CRM.
- Preflight and postflight pilot briefings.
- Cockpit procedures.
- Techniques of instruction.
- Local course rules.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual. Instructors shall emphasize the ability to teach using all appropriate references and SOPs, evaluate problems, and apply corrective instruction.

Prerequisites. CIUT-5927

External Syllabus Support. WST/APT.

CIUT-5932 1.5 * CIUTE WST/APT S D

Goal. Review all familiarization stage maneuvers at night.

Requirements

Discuss:
- CRM.
- The night unaided environment.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual. IUT will perform all night familiarization stage maneuvers with emphasis on the IUT's instructional technique. Instructors shall emphasize the ability to teach, evaluate problems, and apply corrective instruction of FAM maneuvers in the unaided night environment.

Prerequisites. CIUT-5931

External Syllabus Support. WST/APT.

CIUT-5933 2.0 * CIUTE WST/APT S D

Goal. Review basic instrument maneuvers, IFR planning, filing, and airway procedures.

Requirements

Discuss:
- CRM.
- IFR planning.
- Filing a DD-175.
- Airway procedures.
- Precision/non-precision approaches.

Review:
- Instrument checklist.
- Attitude instrument flight.
- Standard rate climbing and descending turns.
- Recovery from unusual attitudes.
- Vertical S-1 pattern.
- Oscar pattern.
- Precision and non-precision approaches.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. CIUT-5932

External Syllabus Support. WST/APT.

CIUT-5934 1.5 * CIUTE WST/APT S D

Goal. Review CAL instruction techniques.

Requirements

Discuss:
- CRM.
- Comfort level.

Review:
- All CAL stage maneuvers.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. CIUT-5933
External Syllabus Support. WST/APT.

CIUT-5935 1.5 * CIUTE WST/APT S D

Goal. Review formation instructional techniques and formation stage maneuvers emphasizing closure rates and radius of turn.

Requirements

Discuss:
- Loss of visual contact.
- Parade position.
- Cruise turn principles.
- Section CALs principles.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. CIUT-5934

External Syllabus Support. WST/APT.

CIUT-5936 1.5 * CIUTE WST/APT S D

Goal. Review external operation instructional techniques.

Requirements

Discuss:
- CRM.
- Single and dual point operations.
- Load computations, preflight and in-flight.
- Emergency procedures.
- Aircraft limitations.

Review:
- Single and dual point operations.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual. Execute five pickups and deliveries or demonstrate proficiency as defined by the ability to fly within 50’ and 10 kts of briefed altitude and airspeed, and deliver load within 5 meters of intended point of delivery and +/- 10 degrees of assigned heading.

Prerequisites. CIUT-5935

External Syllabus Support. WST/APT with external aircrew trainer, if available.

CIUT-5937 1.5 * CIUTE E WST/APT S D

Goal. Flight instructor standardization check.

Requirements

Discuss:
CRM.
CH-53E limitations.
Course Rules.
FRS Standardization Manual.
Instruction techniques.

Performance Standards. Per CH-53E NATOPS and FRS Standardization Manual.

Prerequisites. Open and Closed Book NATOPS. CIUT-5936

External Syllabus Support. WST/APT.

214. REQUIREMENTS, QUALIFICATIONS, DESIGNATIONS (RQD) PHASE (6000)

1. Purpose. This phase contains standardized combat/leadership workup and evaluation events.

2. General

a. Squadrons should use this phase of training for check flights and designations. The PUI will demonstrate sound levels of aircraft/flight leadership and judgment required in a combat environment.

b. Squadrons shall evaluate pilots for required flight leadership designations at the discretion of the squadron commanding officer per the criteria in the CH53 NATOPS Flight Manual, OPNAV 3710, and local SOPs.

c. Upon the successful completion of the check flight, the new Helicopter Aircraft Commander, Section/Division/Flight Leader, or Air Mission Commander will be designated in writing by the squadron commanding officer. Copies of the designation shall be placed in the APR and NATOPS.

d. Flight leadership codes do not chain other syllabus events. Log appropriate T&R syllabus events in addition to flight leadership codes. Range, ordnance, and external support will be IAW the appropriate T&R syllabus events.

e. Flight leadership re-designation criteria for pilots that did not require Core Skill Introduction Refresher training is at the discretion of the Squadron Commanding Officer, upon regaining core and mission skill proficiency and a NATOPS-6001. Pilots that required Core Skill Introduction Refresher shall complete those flight leadership events designated as R POI events and be redesignated at the discretion of the MAG Commanding. Refresher pilots that were previous Assault Flight Leaders (AFL) and Air Mission Commanders (AMC) may be re-designated with their highest previous flight leadership designation, following successful completion of the R coded HAC, Section lead and Division lead events.

f. Upon completion of the HAC syllabus, model conversions may be re-designated with their highest previous flight leadership designation at the discretion of the Squadron Commanding Officer, assuming they have not been out of the cockpit for more than 485 days prior to converting. If the model conversion has been out of the cockpit 485 days or greater, they must complete the R coded flight leadership events for their previous flight leadership designations up to Division lead, to include HAC and Section lead.

Upon completion of the R coded Division lead event, re-designation as AFL and AMC can occur at the discretion of the MAG commanding officer.

g. Flight Leadership proficiency shall be tracked in M-SHARP, when completing the NAVFLIR.

3. Academic/Ground Training

a. Purpose. Within the Flight Leadership Training Phase the required academic syllabus shall be completed in accordance with this Manual and the MAWTS-1 CH-53 Course Catalog.

b. The Flight Leadership Training Phase academic/ground training shall be complete IAW the POI requirements and prerequisites for the stage and IAW paragraph 206 of this Manual. Upon completion, the PUI shall report to the PTO or designated representative(s), who will then manually update the training code in M-SHARP and log the academic/ground training event in section 3, Aircrew Ground School Training of the APR, using the format listed in Enclosure 1 of this document.

c. 2000-6000 classes are located at the MAWTS-1 NIPR website under ASD, CH-53, T&R:

https://www.intranet.tecom.usmc.mil/sites/mawts1/default.aspx

d. SIPR 2000-6000 classes are located at the MAWTS-1 SIPR website under ASD, CH-53, T&R:

http://www.mawts1.usmc.smil.mil/

FLIGHT LEADERSHIP PHASE (6000)
ASSAULT FLIGHT LEADER STAGE
ACAD-6010 TACTICAL FLIGHT BRIEFING
AIR MISSION COMMANDER STAGE
ACAD-6011 AMC

4. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Requirements, Certifications, Qualifications, Designations, (RQD) Phase.
Academic: See event
Flight: See Event
Designation/Qualification: See Event

5. CH-53 NATOPS POI

a. Purpose. To evaluate the airman's knowledge of aircraft systems, performance limitations, emergency procedures, flight and ground operations IAW OPNAV 3710.7 and CH-53 NATOPS.

b. General

(1) NATOPS Instructors/Assistant Instructor shall conduct the NATOPS evaluation in accordance with OPNAV 3710.7 series and other applicable directives, instructions, and orders.

(2) The NATOPS Evaluator shall utilize the NATOPS Model Manager generated NATOPS Aviation Training Form (ATF) and the evaluation metrics

required for the accomplishment and performance of the standardized criterion to determine whether the PUI completed the sortie.

(3) NATOPS PUIs shall complete and have a graded Open Book and Closed Book prior to the commencement of the oral evaluation and flight event.

c. Crew Requirements. P/P/CC/AO (as required).

d. Academic Training. Open, closed book and oral evaluation IAW OPNAV 3710.7 and the CH-53 NATOPS.

NATOPS-6000 3.0 365 B,R,SC E Open Book NATOPS Examination

Goal. Open book written examination to evaluate the airman's NATOPS knowledge IAW 3710.

Performance Standard. IAW OPNAV 3710.

NATOPS-6001 1.0 365 B,R,SC E Closed Book NATOPS Examination

Goal. Closed book written examination to evaluate the airman's NATOPS knowledge IAW 3710 and CH-53 NATOPS.

Performance Standard. IAW OPNAV 3710 and CH-53 NATOPS.

Prerequisite. NATOPS-6000

NATOPS-6002 2.0 365 B,R,SC E Oral NATOPS Examination

Goal. Oral examination to evaluate the airman's NATOPS knowledge IAW 3710 and CH-53 NATOPS.

Performance Standard. IAW OPNAV 3710 and CH-53 NATOPS.

Prerequisite. NATOPS-6001

NATOPS-6004 1.0 30 B,R,SC E Monthly EP Exam

Goal. Monthly NATOPS Emergency Procedure Examination to evalute the airman's Knowledge of Emergency Procedures.

Performance Standard. IAW OPNAV 3710 and CH-53 NATOPS.

NATOPS-6100 1.5 365 B,R,SC E 1 WST/APT/CH-53 S/A (N)

Goal. Conduct Annual NATOPS evaluation by evaluating the Marine's knowledge of mission planning, briefing, normal operating procedures (flight and ground), crew resource management, aircraft systems, performance criteria, emergency procedures, and debriefing. The focus is on normal and emergency procedures. Emphasis shall be placed on the aforementioned items with the addition of comprehensive knowledge and understanding of NATOPS, local SOPs, and local course rules. The NATOPS evaluation is intended to evaluate compliance with NATOPS procedures. The NATOPS evaluation is the means to measure the Marine's efficiency in the execution

of normal operating procedures and reaction to emergencies and malfunctions. The NATOPS evaluation process should be as much a learning tool and/or experience as it is an evaluation.

Requirement. As directed in the CH-53 NATOPS Flight Manual and OPNAV 3710.7. Demonstrate comprehensive knowledge and understanding of NATOPS, local SOPs, and local course rules. The PUI shall accomplish the following criterion:

Brief/Debrief IAW NATOPS and local SOPs.

Performance Standards. The proficiency expected by the evaluator in this flight shall be commensurate with the experience level of the pilot under evaluation.

Prerequisite. NATOPS-6002

Range Requirements. CAL/MAL site.

External Syllabus Support. WST/APT as required.

6. CRM Training

a. Purpose. To conduct annual CRM training.

b. General

(1) CRM Flight may be flown concurrent with any operational or training flight or simulator, including NATOPS-6100 or INST-6103.

(2) The CRM Flight Evaluator must be designated a CRM Facilitator or CRM Instructor.

CRM-6003 3.0 365 B,R CH-53 CRM Class

Goal. Conduct annual CH-53 CRM Ground Training IAW CH-53 NATOPS, OPNAV 3710.7 and OPNAVINST 1542.7.

Performance Standards. Per CH-53 NATOPS, OPNAV 3710.7 and OPNAVINST 1542.7.

CRM-6101 1.5 365 B,R 1 WST/APT/CH-53 S/A (N)

Goal. Practice/review CRM principles presented in the CH-53 annual CRM Ground Training.

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

Performance Standards. Demonstrate effective use of the 7 CRM critical skills and IAW CH-53 NATOPS, OPNAV 3710.7, OPNAVINST 1542.7.

Prerequisite. CRM-6003

7. CH-53 Instrument Evaluation

a. Purpose. To evaluate the airman's knowledge of instrument procedures and aircraft instrument systems.

b. General

(1) Instrument Instructors shall conduct the Instrument evaluation in accordance with OPNAV 3710.7 series and other applicable directives, instructions, and orders.

(2) The Instrument Instructor shall utilize the locally generated Instrument Aviation Training Form (ATF) and the evaluation metrics required for the accomplishment and performance of the standardized criterion to determine whether the PUI completed the sortie.

(3) Instrument PUIs shall complete local instrument ground school prior to the commencement of the actual Instrument oral evaluation event.

c. Academic Training: Instrument Ground School IAW OPNAV 3710.7.

d. Prerequisites. Per OPNAV 3710 annual instrument requirements and Instrument Ground School.

INST-6005 4.0 365 B,R E Instrument Ground School(IGS)

Goal. The Instrument Ground School shall be a Commander Naval Air Forces (CNAF) approved syllabus and IAW OPNAV 3710.7.

Performance Standards. Per OPNAV 3710.7

INST-6006 1.0 365 B,R E Written Instrument Examination

Goal. The Instrument Written Instrument Examination shall be a Commander Naval Air Forces (CNAF) approved syllabus and IAW OPNAV 3710.7.

Performance Standards. Per OPNAV 3710.7

Prerequisite. INST-6005

INST-6102 1.5 365 B,R E 1 WST/APT CH-53 S/A (N)

Goal. Conduct annual instrument evaluation. Following completion of the ground evaluation events, an instrument flight/simulator evaluation event shall be flown and completed with a grade of "Qualified." Conduct an objective evaluation of the Marine's knowledge of flight planning, filing, briefing, and conduct of flight under normal operating conditions, emergency procedures, closing out flight plans, and debriefing.

Requirements. As directed in the CH-53 NATOPS Flight Manual and OPNAV 3710.7.

Performance Standards. Executes flight and/or ground operations safely IAW OPNAV 3710.7 Series, Platform NATOPS, NATOPS Instrument Flight Manual, and training rules. All areas on the instrument flight evaluation are critical. An "Unsatisfactory" grade in any area shall result in an "Unsatisfactory" grade for the flight.

Prerequisites. INST-6006

External Syllabus Support. WST/APT as required.

8. Helicopter Aircraft Commander (HAC)

a. Purpose. Demonstrate knowledge, leadership, airmanship, and judgment in all phases of flight commensurate with a Helicopter Aircraft Commander.

b. General

(1) Squadrons shall evaluate pilots for designations at the discretion of the Commanding Officer per the criteria in the CH-53 NATOPS Flight Manual, OPNAV 3710.7, and local SOPs.

(2) Upon the successful completion of the check flight the new Helicopter Aircraft Commander (HAC) will be designated in writing by the Squadron Commanding Officer.

(3) Prerequisite requirements may be waived at the discretion of the Squadron Commanding Officer and details of the waiver will be annotated in the APR.

(4) Flight leadership codes do not chain other syllabus events. Log the appropriate T&R syllabus event in addition to the flight leadership code. Range, ordnance, and external support will be IAW the appropriate T&R syllabus event.

c. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed prior to starting the Helicopter Aircraft Commander Syllabus.

d. Prerequisites. NSQ-LLL, Core and Mission Skill complete. 450 total hours to start the syllabus and be recommend by Squadron Standardization Board. PUI must have 500 total hours prior to designation.

HAC-6120 1.5 * B 1 CH-53/WST/APT A/S D

Goal. Conduct day HAC review.

Requirements. As directed in the CH-53 NATOPS and OPNAV 3710.7, to include but not limited to all practicable operations and procedures contained in the T&R syllabus.

Performance Standards. Demonstrate proficiency, leadership and instructional techniques in all phases of CH-53 operations as appropriate. Emphasize NATOPS, ANTTP 3-22.3-CH53, ASTACSOP, MAG and squadron SOPs, and the Instrument Flight Manual.

Prerequisites. Core and Mission Skill complete.

Range Requirements. CAL/MAL site.

HAC-6121 1.5 * B 1 CH-53/WST/APT A/S NS

Goal. Conduct NS HAC review.

Requirements. Same as HAC-6120 with emphasis on NS planning and considerations.

Performance Standards. Demonstrate proficiency and leadership in all phases of CH-53 operations as appropriate. Emphasize NATOPS, ANTTP 3-22.3-CH-53, MAWTS-1 NVD Manual, MAG and squadron SOPs, and the Instrument Flight Manual.

Prerequisites. Core and Mission Skill complete.

Range Requirements. CAL/MAL site.

HAC-6122 2.0 * B,R E 1 CH-53 A (N)

Goal. Conduct day into night HAC check.

Requirements. As directed in the CH-53 NATOPS and OPNAV 3710.7, to include but not limited to all practicable operations and procedures contained in the T&R syllabus.

Instructor:
NATOPS Instructor or Assistant NATOPS Instructor.

Performance Standards. Squadrons shall evaluate pilots for HAC designation at the discretion of the Commanding Officer per the criteria in the CH-53 NATOPS, OPNAV 3710.7, and local SOPs. This flight will cover all practicable operations and procedures contained in the T&R syllabus.

Prerequisites. BIP-5110, HAC-6120 and HAC-6121, NATOPS-6001

Ordnance. As required.

External Syllabus Support. As required.

9. Section Leader (SL)

a. Purpose. To prepare and evaluate the prospective Section Leader's ability to plan, brief and lead an event as a Section Leader (SL).

b. General

(1) The Section Leader syllabus is comprised of four total flights; 2 events focusing on Core Skill based evaluations and 2 events focusing on Mission Skill based scenarios. Two of the four events may be flown in the simulator and two events shall be flown at night employing night systems in the aircraft. In addition, the Section Leader syllabus can be flown in any order with the exception of SL-6203 which shall be flown last and in the aircraft.

(2) All prospective Section Leader events shall be evaluated by a designated Division Leader or higher. The Section Leader evaluation flight (SL-6203) shall be administered by a Flight Leadership Standardization Evaluator (FLSE) in the aircraft.

(3) Completion of the Section Leader syllabus meets the requirements for designation as Section Leader. At the discretion of the Squadron Commanding Officer, a letter designating the pilot as Section Leader shall be placed in the NATOPS jacket and APR. For aircrew requiring Core Skill introduction refresher training, re-designation will require only the successful completion of the evaluation event at the discretion of the Squadron Commanding Officer.

(4) The Section Leader Under Instruction (SLUI) will perform preflight planning, conduct a tactical brief as required, NATOPS brief, lead a section and conduct a debrief. Evaluation will be based on mission accomplishment, adherence to all applicable directives, orders, SOPs, ATC and course rules. Further evaluation will concentrate on flight safety, section control, formation integrity, and communication procedures. Aircraft should be configured with all weapons and systems required for the scenario.

(5) Prior to the completion of the Section Leader syllabus:

(a) Designated a HAC with a minimum of 50 aircraft commander hours, have flown a minimum of three flights as a HAC in a wingman position.

(b) Nominated by the Standardization Board prior to beginning the Section Leader syllabus.

c. Crew Requirements. P/P/CC/AO

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, and chalk talks which shall be completed prior to starting the Section Leader Syllabus.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Section Leader Syllabus:

Academic: ACPM-8630 & ACPM-8660
Flight: HAC-6122
Minimum of three flights as a HAC in a wingman position.
Designation/Qualification: HAC

SL-6200 1.5 * B 2 Assault Support Aircraft/WST/APT TEN+ A/S (NS)

Goal. Conduct a day or night Core Skill based Section Leader review.

Requirements. Plan, brief, lead, and debrief a section flight utilizing the principles of CRM and flight leadership. The flight should offer sufficient opportunity to demonstrate cruise principles, conduct lead changes, TERF flight and navigation, cruise and parade formations, and section landings. The SLUI shall demonstrate comprehensive knowledge and understanding of the T&R Manual, NATOPS, OPNAV 3710.7, ASTACSOP, local SOPs, local course rules, and ORM/CRM principles.

Instructor: Division Leader or higher.

Performance Standards
TERF events shall navigate a route at or below 200' AGL and remain oriented IAW ASTACSOP Magellan criteria while navigating to a minimum of six checkpoints while using 1:250,000 and 1:50,000 scale maps as appropriate. To the max extent possible the route should be a minimum of 50nm.
NS (HLL or LLL) events shall ensure proper NVD considerations and planning is accomplished.
Brief event IAW SOPs and TTPs.
Conduct event IAW NATOPS and OPNAV 3710.7.
Maintain proper formation and mutual support to and from the working area.
Ensure effective CRM for navigation and obstacle clearance.
Demonstrate effective inter and intra cockpit communication and leadership required for precise navigation and flight management.
Effectively manage fuel and airspace.
Accurately recall and reconstruct events during debrief.
Provide valid learning points.

Prerequisites. ACPM-8630, ACPM-8660
Designated HAC
Minimum three flights as a HAC in a wingman position.

External Syllabus Support. WST/APT (as required).

SL-6201 1.5 * B 2 Assault Support Aircraft/WST/APT TEN+ A/S (NS)

Goal. Plan, brief, lead, and debrief a MCT based tactical scenario, day or night, utilizing principles of CRM and flight leadership to ensure mission success.

Requirements. Plan, brief, lead and debrief a day or night section in a low/medium threat MCT based tactical flight to include escort and fire support considerations. The SLUI shall demonstrate comprehensive knowledge and understanding of T&R Manual, NATOPS, ASTACSOP, local SOPs, local course rules, and ORM/CRM principles. Emphasis should be on mission analysis using METT-TSL, the mission planning process, weapons and ASE employment (evasive actions, sectors of fire), integrated

objective area planning, and escort considerations. Additional emphasis on night considerations as applicable, detailed fuel planning, contingency planning, and mission delegation of tasks.

Instructor: Division Leader or higher.

Performance Standards.
Plan and brief a tactical mission IAW the ASTACSOP, ANTTP 3-22.3 and all applicable SOPs.
Arrive at LZ +/- 30 seconds of L-Hour.
TERF events shall navigate a route at or below 200' AGL and remain oriented IAW ASTACSOP Magellan criteria while navigating to a minimum of six checkpoints while using 1:250,000 and 1:50,000 scale maps as appropriate. To the max extent possible the route should be a minimum of 50nm.
Land at points best supporting the Ground Combat Element's scheme of maneuver.
Demonstrate proper employment and understanding of ASE.
Demonstrate proper use of tactical formations.
Demonstrate situational awareness of other aircraft through all phases of flight.
Demonstrate positive control of flight.
As applicable, demonstrate proper understanding of NS considerations with multiple aircraft and aerial gunnery.
As applicable, demonstrate proper understanding of Laser employment.
Demonstrate proper understanding of MACCS system to facilitate execution and information flow.
Demonstrate appropriate consideration for threat from planning through execution.
Demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment.
Demonstrate proper understanding of escort considerations.
Demonstrate proper understanding and utilization of secure and active communications.
Demonstrate understanding of FSCM utilization.
Demonstrate understanding of contingency considerations.

Prerequisites. ACPM-8630, ACPM-8660
Designated HAC
Minimum three flights as a HAC in a wingman position.

External Syllabus Support.
Escort FW/RW aircraft optional.
WST/APT (as required)

SL-6202 1.5 * B 2 Assault Support Aircraft/WST/APT TEN+ A/S (NS)

Goal. Conduct a day or night Core Skill based Section Leader review.

Requirements. Plan, brief, lead, and debrief a section flight utilizing principles of CRM and flight leadership to ensure mission success. The flight should offer sufficient

opportunity to demonstrate cruise principles, conduct lead changes, TERF flight and navigation, cruise and parade formations, and section landings. The SLUI shall demonstrate comprehensive knowledge and understanding of T&R Manual, NATOPS, OPNAV 3710.7, ASTACSOP, local SOPs, local course rules, and ORM/CRM principles.

Instructor: Division Leader or higher.

Performance Standards.
TERF events shall navigate a route at or below 200' AGL and remain oriented IAW ASTACSOP Magellan criteria while navigating to a minimum of six checkpoints while using 1:250,000 and 1:50,000 scale maps as appropriate. To the max extent possible the route should be a minimum of 50nm.
NS (HLL or LLL) events shall ensure proper NVD considerations and planning is accomplished.
Brief event IAW SOPs and TTPs.
Conduct event IAW NATOPS and OPNAV 3710.
Maintain proper formation and mutual support to and from the working area.
Ensure effective CRM for navigation and obstacle clearance.
Demonstrate effective inter and intra cockpit communication and leadership required for precise navigation and flight management.
Effectively manage fuel and airspace.
Accurately recall and reconstruct events during debrief.
Provide valid learning points.

Prerequisites. ACPM-8630, ACPM-8660
Designated HAC
Minimum three flights as a HAC in a wingman position.

External Syllabus Support. WST/APT (as required).

SL-6203 1.5 * B,R E 2 Assault Support Aircraft A (NS)

Goal. Conduct a Section Leader evaluation utilizing a MCT based tactical scenario in a low to medium threat environment. Day or night. Emphasis should be on situational awareness, flight maturity, CRM, and the tactical and operational knowledge required of a Section Lead.

Requirement. Completion of 6200, 6201, and 6202 meets the requirement for the SLUI to be designated a Section Leader. The SLUI shall plan, brief, lead, and debrief a day or night section in a low/medium threat MCT based tactical flight. This flight should include escort, fire support considerations, and aerial gunnery. The SLUI shall demonstrate comprehensive knowledge and understanding of T&R Manual, NATOPS, ASTACSOP, local SOP, local course rules, and ORM/CRM principles.

Instructor: FLSE

10. Division Leader (DL)

a. Purpose. To prepare and evaluate the prospective Division Lead's ability to plan, brief and lead an event as a Division Lead.

b. General

(1) The Division Leader syllabus is comprised of three flights; 1 event focusing on core skill based evaluation and two events focusing on MCT based scenarios. One of the three events may be flown in the simulator and two of the three events shall be flown at night. In addition, the Division Leader syllabus can be flown in any order with the exception of DL-6302 which shall be flown last and in the aircraft.

(2) All prospective Division Leader events shall be evaluated by a designated AFL or higher. The Division Leader evaluation flight (DL-6302) shall be flown with a Flight Leadership Standardization Evaluator (FLSE) in the aircraft.

(3) Completion of the Division Leader syllabus meets the requirements for designation as Division Leader at the discretion of the squadron Commanding Officer. A letter designating the pilot as a Division Leader shall be placed in the NATOPS jacket and APR. Aircraft should be configured with all weapons and systems required for the scenario.

(a) For aircrew that require Core Skill introduction refresher training, re-designation will require successful completion of the evaluation event only, at the discretion of the MAG commanding officer.

(b) For aircrew that require Core Sill introduction refresher training, and were previously designated a Flight Leader and/or Air Mission commander, successful completion of the R coded Division Leader Evaluation event fulfills all requirements for re-designation as a Flight Leader and/or Air Mission Commander, at the discretion of the MAG commanding officer.

(4) The Division Leader Under Instruction (DLUI) will perform preflight planning, conduct a tactical mission and NATOPS brief, lead a division and conduct a debrief. Evaluation will be based on mission accomplishment, adherence to all applicable directives, orders, SOPs, ATC and course rules. Further evaluation will concentrate on flight safety, division control, formation integrity, and communication procedures. Aircraft should be configured with all weapons and systems required for the scenario.

(5) Prior to the completion of the Division Leader syllabus:

(a) Prospective Division Leads shall be Section Leaders who have flown a minimum of three flights as a Section Leader.

(b) 600 total flight hours.

(c) 200 hours in type.

(d) 50 hours in model.

(e) Nominated by the Standardization Board prior to beginning the Division Leader syllabus.

c. Crew Requirements. P/P/CC/AO

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings and chalk talks which shall be completed prior to starting the Division Leader Syllabus.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Division Leader Syllabus:

Academic: ACPM-8640 & 8641
Flight: SL-6203 and three flights as a Section Leader
Designation/Qualification: Section Lead

DL-6300 1.5 * B 3+ Assault Support Aircraft/WST/APT TEN+ A/S (NS)

Goal. Conduct a day or night Core Skill based Division Leader review.

Requirements. Plan, brief, lead, and debrief a division flight utilizing the principles of CRM and flight leadership. The flight should offer sufficient opportunity to demonstrate cruise principles, conduct lead changes, TERF flight and navigation, cruise and parade formations, and division landings. The DLUI shall demonstrate comprehensive knowledge and understanding of the T&R Manual, NATOPS, OPNAV 3710.7, ASTACSOP, local SOPs, local course rules, and ORM/CRM principles.
Instructor: Flight Leader or higher.

Performance Standards
TERF events shall navigate a route at or below 200’ AGL and remain oriented IAW ASTACSOP Magellan criteria while navigating to a minimum of six checkpoints while using 1:250,000 and 1:50,000 scale maps as appropriate. To the max extent possible the route should be a minimum of 50nm.
NS (HLL or LLL) events shall ensure proper NVD considerations and planning is accomplished.
Brief event IAW SOPs and TTPs.
Conduct event IAW NATOPS and OPNAV 3710.7.
Maintain proper formation and mutual support to and from the working area.
Ensure effective CRM for navigation and obstacle clearance.
Demonstrate effective inter and intra cockpit communication and leadership required for precise navigation and flight management.
Effectively manage fuel and airspace.
Accurately recall and reconstruct events during debrief.
Provide valid learning points.

Prerequisites. ACPM-8640, ACPM-8641
Designated SL
Minimum of three flights as a Section Leader

External Syllabus Support. WST/APT (as required)

DL-6301 1.5 * B 3+ Assault Support Aircraft/WST/APT TEN+ A/S (NS)

Goal. Conduct a Division leader review utilizing a MCT based tactical scenario in a low to medium threat environment. Emphasis should be on situational awareness, flight maturity, CRM, and the tactical and operational knowledge required of a Division Lead.

Requirements. Plan, brief, lead, and debrief a tactical division flight utilizing principles of CRM and flight leadership to ensure mission success. Flight should offer sufficient opportunity to conduct lead changes, cruise principles, cruise and parade formations, and division landings. The DLUI shall demonstrate comprehensive knowledge and understanding of T&R Manual, NATOPS, ASTACSOP, local SOP, local course rules, and ORM/CRM principles. The PUI shall accomplish the following criteria:

Instructor: Flight leader or higher

Performance Standards
Plans and briefs a tactical mission IAW the ASTACSOP, ANTTP 3-22.3 and all applicable SOPs.
Arrive at LZ +/- 30 seconds of L-Hour.
TERF events shall navigate a route at or below 200’ AGL and remain oriented IAW ASTACSOP Magellan criteria while navigating to a minimum of six checkpoints while using 1:250,000 and 1:50,000 scale maps as appropriate. To the max extent possible the route should be a minimum of 50nm.
Land at points best supporting the Ground Combat Elements scheme of maneuver.
Demonstrate proper employment of ASE.
Demonstrate proper use of tactical formations.
Demonstrate situational awareness of other aircraft through all phases of flight.
Demonstrate positive control of flight.
As applicable, demonstrate proper understanding of NS considerations with multiple aircraft and aerial gunnery.
As applicable, demonstrate proper understanding of Laser employment.
Demonstrate proper understanding of MACCS system to facilitate execution and information flow.
Demonstrate appropriate consideration for threat from planning through execution.
Demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment.
Demonstrate proper understanding of escort considerations.
Demonstrate proper understanding and utilization of secure and active communications.
Demonstrate understanding of FSCM utilization.
Demonstrate understanding of contingency considerations.

Prerequisites. ACPM-8640, ACPM-8641
Designated SL
Minimum of three flights as a Section Leader.

External Syllabus Support.
-WST/APT (as required)
-Escort FW/RW aircraft optional.

DL-6302 1.5 * B,R E 3 Assault Support Aircraft A (NS)

Goal. Conduct a Division leader check utilizing a Mission Skill based tactical scenario in a low to medium threat environment. Emphasis should be on situational awareness, flight maturity, CRM, and the tactical and operational knowledge required of a Division Lead.

Requirements. Plan, brief, lead, and debrief a tactical division flight utilizing principles of CRM and flight leadership to ensure mission success. Flight should offer sufficient opportunity to conduct lead changes, cruise principles, cruise and parade formations, and division landings. The DLUI shall demonstrate comprehensive knowledge and understanding of T&R Manual, NATOPS, ASTAC SOP, local SOP, local course rules, and ORM/CRM principles. The PUI shall accomplish the following criteria:

Instructor: FLSE.

Performance Standards
Plans and briefs a tactical mission IAW the ASTACSOP, ANTTP 3-22.3 and all applicable SOPs.
Arrive at LZ +/- 30 seconds of L-Hour.
TERF events shall navigate a route at or below 200’ AGL and remain oriented IAW ASTACSOP Magellan criteria while navigating to a minimum of six checkpoints while using 1:250,000 and 1:50,000 scale maps as appropriate. To the max extent possible the route should be a minimum of 50nm.
Land at points best supporting the Ground Combat Elements scheme of maneuver.
Demonstrate proper employment of ASE.
Demonstrate proper use of tactical formations.
Demonstrate situational awareness of other aircraft through all phases of flight.
Demonstrate positive control of flight.
As applicable, demonstrate proper understanding of NS considerations with multiple aircraft and aerial gunnery.
As applicable, demonstrate proper understanding of Laser employment.
Demonstrate proper understanding of MACCS system to facilitate execution and information flow.
Demonstrate appropriate consideration for threat from planning through execution.
Demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment.
Demonstrate proper understanding of escort considerations.
Demonstrate proper understanding and utilization of secure and active communications.
Demonstrate understanding of FSCM utilization.
Demonstrate understanding of contingency considerations.

Prerequisites. 600 HOURS FLT HOURS, 200 IN TYPE, 50 HOURS IN MODEL, DL-6300-6301
External Syllabus Support
Escort FW/RW aircraft optional.

11. Flight Leader (FL)

a. Purpose. To evaluate the prospective Flight Leader's ability to plan, brief and lead an event as a Flight Leader.

b. General

(1) The Flight Lead evaluation flight shall be flown in the aircraft and may be flown either day or night. Aircraft should be configured with all weapons and systems required for the scenario.

(2) The FL evaluation flight shall be evaluated by a FLSE.

(3) Completion of the Flight Leader evaluation meets the requirements for designation as a Flight Leader, at the discretion of the Squadron Commanding Officer. A letter designating the pilot as a Flight Leader shall be placed in the NATOPS jacket and APR. For aircrew requiring Core Skill introduction refresher training and previously designated a Flight Leader, re-designation will require successful completion of the R coded Division Leader evaluation event, at the discretion of the Commanding Officer.

(4) The Flight Lead Under Evaluation (FLUI) will perform preflight planning, conduct a tactical mission brief, lead a flight of five (5) or more assault aircraft with optional escorts, and conduct a debrief. Evaluation will be based on mission accomplishment, adherence to all applicable directives, orders, SOPs, ATC and course rules. Further evaluation will concentrate on flight safety, flight control, formation integrity, and communication procedures. Additionally, evaluation will address tactical soundness, contingency planning, brief delivery, and use of supporting arms and flexibility during execution. Aircraft should be configured with all weapons and systems required for the scenario.

(5) Prospective Flight Leads shall be Division Leaders with a minimum of 750 total flight hours and nominated by the Standardization Board. Prospective Flight Leads shall have flown three Division Leader Flights.

c. Crew Requirements. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, chalk talks which shall be completed prior to starting the Flight Leader Syllabus.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Flight Leader Syllabus:

Academic: ACAD-6010, ACPM-8620
Flight: DL-6102 and Minimum three flights as a Division Leader
Designation/Qualification: Division Lead

FL-6400 1.5 * B E 5+ Aircraft A (NS)

Goal. Conduct Flight Leader check utilizing a MCT based tactical scenario. Scenario used should not be the same MCT scenario used during Division Leader Check. Emphasis should be on planning, coordination and control of all supporting arms, escorts and agencies in meeting with mission requirements.

Requirement. Plan, brief, lead and debrief a tactical flight utilizing principles of CRM and flight leadership to ensure mission success. Flight should offer sufficient opportunity to conduct lead changes, cruise principles, cruise and parade formations, and Flight landings. The FLUI shall demonstrate comprehensive knowledge and understanding of T&R Manual, NATOPS, ASTACSOP, local SOP, local course rules, and ORM/CRM principles. The FLUI shall accomplish the following criteria:
Brief in accordance with ASTACSOP and ANTTP 3-22.3-CH53
Complies with Wing, MAG, and squadron SOPs.

Instructor: FLSE.

Performance Standards
Plan and brief a MCT based tactical mission IAW ASTACSOP and ANTTP 3-22.3-CH-53.
TERF events shall navigate a route at or below 200’ AGL and remain oriented IAW ASTACSOP Magellan criteria while navigating to a minimum of six checkpoints while using 1:250,000 and 1:50,000 scale maps as appropriate. To the max extent possible the route should be a minimum of 50nm.
Comply with all applicable SOPs.
Arrive at LZ +/- 30 seconds of briefed plan.
Land at points best supporting the Ground Combat Elements scheme of maneuver.
Demonstrate proper employment and understanding of ASE.
Demonstrate proper use of tactical formations.
Demonstrate situational awareness of other aircraft through all phases of flight.
Demonstrate positive control of flight.
As applicable, demonstrate proper understanding of NS considerations with multiple aircraft, aerial gunnery, and laser employment.
Demonstrate proper understanding of MACCS system to facilitate execution and information flow.
Demonstrate appropriate threat consideration from planning through execution.
Demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment.
Demonstrate proper understanding of escort considerations.
Demonstrate proper understanding and utilization of secure and active communications.
Demonstrate understanding of FSCM utilization.
Demonstrate understanding of contingency considerations.
Demonstrate GCE accountability to and from the objective area.
Demonstrate the ability to conduct timely and effective contingency planning.

Prerequisites. ACAD-6010, ACPM-8620
Minimum 3 flights as a Division Leader
Minimum 750 Flight hours

External Syllabus Support. CAL/MAL sites and authorized TERF areas as required. RW and/or FW escort preferred but not required.

12. Air Mission Commander (AMC)

a. Purpose. To prepare and evaluate the prospective Air Mission Commander's ability to plan, brief and lead an event as an Air Mission Commander.

b. General

(1) Air Mission Commander evaluation event may be conducted from an aircraft, a C&C platform, or an appropriate ground based COC.

(2) The AMC evaluation flight shall be evaluated by a FLSE.

(3) Completion of AMC-6500 meets the requirements for designation as Air Mission Commander, at the discretion of the squadron Commanding Officer. A letter designating the pilot as an Air Mission Commander shall be placed in the NATOPS jacket and APR. For aircrew requiring Core Skill introduction refresher training and previously designated an Air Mission Commander, re-designation will require successful completion of the R coded Division Leader evaluation event, at the discretion of the Commanding Officer. Aircraft should be configured with all weapons and systems required for the scenario.

(4) The AMC designation is a function of flight leadership, maturity and experience. The AMC should lead the mission from a C&C aircraft, if available. The Air Mission Commander Under Evaluation (AMCUI) will perform preflight planning, conduct a tactical mission brief, command a flight of two divisions or more, and conduct a debrief. The AMC shall be evaluated on his ability to integrate the 6 functions of Marine Aviation. Evaluation will be based on mission accomplishment, adherence to all applicable directives, orders, and SOPs. Further evaluation will concentrate on communication planning, coordination of multiple agencies and flight safety. Additionally, evaluation will address tactical soundness of contingency planning, brief delivery, and use of supporting arms and flexibility during execution. Aircraft should be configured with all weapons and systems required for the scenario.

(5) Prospective Air Mission Commanders shall be an AFL and shall be nominated by the Standardization Board.

c. Crew Requirements. As required.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, chalk talks, and lectures which shall be completed prior to starting the Air Mission Commander Syllabus.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Air Mission Commander Syllabus:

Academic: ACAD-6011
Flight: FL-6400
Designation/Qualification: Flight Lead

AMC-6500 1.5 * B E MULITPLE ELEMENTS A or L (NS)

Goal. Conduct a day or night Air Mission Commander (AMC) check utilizing a MCT based tactical scenario.

Requirement. Plan, brief, lead, and debrief a day or night multi-element, multi-T/M/S tactical mission in any threat environment. The AMCUI shall be evaluated on his/her ability to integrate the six functions of Marine Aviation and should lead the mission from a C&C platform or COC (as appropriate).

Discuss:
- Mission analysis and METT-TSL.
- Marine Corps Planning Process (MCPP) / Rapid Response Planning Process (R2P2).
- COA development and task delegation.
- Six functions of Marine Aviation.
- Aviation Ground Support (AGS) capabilities.
- MACCS agencies, functions, and employment.
- Threat planning considerations for multiple T/M/S aircraft.
- GCE support considerations.
- Objective area planning considerations.
- Fire Support Coordination Measures (FSCMs).
- Fire support/supporting arms considerations and integration (e.g. indirect fires, CAS).
- RW and FW escort considerations and escort tactics.
- Assault support considerations and tactics.
- Contingency planning.
- Immediate tasking.
- Go vs. No-Go criteria.
- Event vs. time driven mission execution.
- Chain of responsibility and delegation of authority.
- C&C platform considerations and Mission Coordination Area(MCA) selection.
- Secure vs. active communications.
- EMCON and radio procedures.
- Information flow requirements.
- Execution checklist utilization.

Review:
- Tactical mission planning and briefing.
- Command and control during a tactical mission.

Performance Standards. The AMCUI shall conduct mission analysis IAW MCWP 5-1, delegate mission tasks to the most advantageous asset/flight, ensure coordination and supervision of key personnel during planning, conduct tactical planning IAW ANTTP series publications, develop a plan that integrates the six functions of Marine Aviation and AGS, develop a plan that fully supports the GCE ground scheme of maneuver and Essential Fire Support Tasks (EFSTs), conduct an AMC brief IAW ANTTP series publications, maintain SA of all assets participating in the mission, maintain SA on mission progress/execution, maximize C&C

platform capabilities, demonstrate proper decision making and task delegation in response to immediate missions and/or contingencies, execute appropriate command and control to ensure mission success. Demonstrate proper understanding and utilization of C4I to facilitate information flow and execution, RW and/or FW escort, secure and active communications, FSCM utilization and supporting arms, and contingency planning and execution. Possess the tactical and operational knowledge required of an AMC.

Prerequisite. Designated Flight Leader, ACAD-6011

Ordnance. As required.

Range Requirements. As required.

External Syllabus Support. GCE, MACCS agencies, AGS assets, multiple T/M/S RW and/or FW assets as required, and any other support required based on the tactical scenario (HST, threat emitter/simulator).

13. Functional Check Pilot (FCP)

a. Purpose. To prepare and evaluate the prospective Functional Check Pilot's ability to safely and proficiently conduct Functional Check Flights.

b. General

(1) Squadron QAOs shall work closely with the PTO to monitor the squadron FCP program to ensure standardization, identify trends, provided additional FCP training and procedure compliance.

(2) A designated FCP shall be the instructor for all FCPIUT training events.

(3) Aircraft in a test status are preferred but are not required for the completion of an FCPIUT event.

c. Academic Training. FCPUI will have a thorough understanding of the readings from OPNAV 3710.7, CH-53 NATOPS, 4790 Naval Aviation Maintenance Program, MIMS, and local SOP's that pertain to FCF operations. Readings and the Open book exam will be generated, administered and maintained by the Squadron QAO.

d. Crew Requirements. P/P/CC.

e. Prerequisites. Prospective Functional Check Pilots shall be a designated HAC with a minimum of 25 aircraft commander hours to prior to the start of the syllabus, and nominated by the Standardization Board. Prior to their FCP designation, pilots must attain a minimum of 50 aircraft commander hours.

FCP-6610 1.5 * B E 1 WST/APT/CH-53 S/A D

Goal. Introduce AFCS checks associated with Functional Check Flight (B-card Procedures).

Requirements
Discuss:
Maintenance actions requiring a B-card.
B-card procedures.
QA brief/debrief.

Introduce:
B-card procedures.
QA brief/debrief.

Performance Standards. FCPUI is expected to have a working knowledge of the procedures and concepts listed above as written in CH-53 NATOPS (CH. 10). FCPUI is able to answer questions and discuss the systems being checked as outlined above. As required, the FCP will demonstrate procedures in order to ensure standardized execution. The FCP should point out common errors in execution as well as common system failures that the FCPUI should look for.

Prerequisite. Recommendation by Stan Board. 25 HAC hours.

FCP-6611 1.5 * B,R,SC E 1 CH-53 A D

Goal. Review AFCS checks associated with Functional Check Flight (B-card Procedures).

Requirements

Discuss:
Conditions requiring a B-card.
B-card procedures.
QA brief/debrief.

Practice:
B-card procedures.
QA brief/debrief.

Performance Standards. FCPUI will demonstrate the ability to conduct a B-card functional check flight. The evaluator should only need to offer little procedural guidance and troubleshooting input. The FCPUI shall be evaluated on all stages of the evolution from QA briefing though QA debriefing and MAF initiation. FCPUI will be evaluated on overall systems knowledge, procedural correctness, time management, cockpit management and aircrew coordination.

Prerequisites. FCP 6610 (B-card SIM Flight).

FCP-6612 1.5 * B E 1 WST/APT/CH-53 S/A D

Goal. Introduce Mechanical Flight Control checks associated with Functional Check Flight (C-card Procedures).

Requirements
Discuss:
Conditions requiring a C-card.

C-card procedures.
QA brief/debrief.

Introduce:
C-card procedures.
QA brief/debrief.

Performance Standards. FCPUI is expected to have a working knowledge of the procedures and concepts listed above as written in CH-53 NATOPS (CH. 10). FCPUI is able to answer questions and discuss the systems being checked as outlined above. As required, the FCP will demonstrate procedures in order to ensure standardized execution. The FCP should point out common errors in execution as well as common system failures that the FCPUI should look for.

Prerequisites. Recommendation by Stan Board. 25 HAC hours.

FCP-6613 1.5 * B,R,SC E 1 CH-53 A D

Goal. Evaluate Mechanical Flight Control checks associated with Functional Check Flight (C-card Procedures).

Requirements

Discuss:
Conditions requiring a C-card.
C-card procedures.
QA brief/debrief.

Practice:
C-card procedures.
QA brief/debrief.

Performance Standards. FCPUI will demonstrate the ability to conduct a C-card functional check flight. The evaluator should only need to offer little procedural guidance and troubleshooting input. The FCPUI shall be evaluated on all stages of the evolution from QA briefing though QA debriefing and MAF initiation. FCPUI will be evaluated on overall systems knowledge, procedural correctness, time management, cockpit management and aircrew coordination.

Prerequisites: FCP 6612 (C-card SIM Flight).

FCP-6614 1.5 * B E 1 WST/APT/CH-53 S/A D

Goal. Introduce engine performance checks associated with Functional Check Flight (D-card Procedures).

Requirements

Discuss:
Conditions requiring a D-card.
D-card procedures.
QA brief/debrief.

Introduce:
D-card procedures.
QA brief/debrief.

Performance Standards. FCPUI is expected to have a working knowledge of the procedures and concepts listed above as written in CH-53 NATOPS (CH. 10). FCPUI is able to answer questions and discuss the systems being checked as outlined above. As required, the FCP will demonstrate procedures in order to ensure standardized execution. The FCP should point out common errors in execution as well as common system failures that the FCPUI should look for.

Prerequisites. Recommendation by Stan Board. 25 HAC hours.

FCP-6615 1.5 * B,R,SC E 1 CH-53 A D

Goal. Evaluate engine performance checks associated with Functional Check Flight (D-card Procedures).

Requirements:

Discuss:
Conditions requiring a D-card.
D-card procedures.
QA brief/debrief.

Practice:
D-card procedures.
QA brief/debrief.

Performance Standards. FCPUI will demonstrate the ability to conduct a D-card functional check flight. The evaluator should only need to offer little procedural guidance and troubleshooting input. The FCPUI shall be evaluated on all stages of the evolution from QA briefing though QA debriefing and MAF initiation. FCPUI will be evaluated on overall systems knowledge, procedural correctness, time management, cockpit management and aircrew coordination.

Prerequisites. FCP 6614 (D-card SIM Flight).

FCP-6616 1.5 * B,RE,SCE E 1 WST/APT/CH-53 S/A D

Goal. Introduce A-card procedures not associated with another FCF profile Flight (A-card unique items).

Requirements

Discuss:
Conditions requiring an A-card.
A-card procedures.
IMDS testing procedures
QA brief/debrief.

Introduce:
A-card procedures.
IMDS testing procedures
QA brief/debrief.

Performance Standards: FCPUI is expected to have a working knowledge of the procedures and concepts listed above as written in CH-53 NATOPS (CH. 10). FCPUI is able to answer questions and discuss the systems being checked as outlined above. As required, the FCP will demonstrate procedures in order to ensure standardized execution. The FCP should point out common errors in execution as well as common system failures that the FCPUI should look for.

Prerequisite. FCP-6610(B-card SIM), FCP-6612(C-card SIM),FCP-6614(D-card SIM).

FCP-6617 2.0 * B,R,SC E 1 CH-53 A D

Goal. Conduct a functional check pilot evaluation.

Requirements Squadrons shall evaluate pilots for designation at the discretion of the Commanding Officer per the criteria in the CH-53 NATOPS Flight Manual, OPNAV 3710.7, 4790 Naval Aviation Maintenance Program, MIMS, and local SOPs.

Instructor:
As determined by the squadron standardization board but must be a designated FCP at a minimum.

Discuss:
Any previously discussed item in the FCP syllabus.

Review:
A-card procedures.
Perform a full A-card FCF

Performance Standards. FCPUI will be evaluated on the ability to conduct a full-systems functional check flight. The evaluator should not need to offer procedural guidance nor provide troubleshooting input. The FCPUI shall be evaluated on all stages of the evolution from QA briefing though QA debriefing and MAF initiation. FCPUI will be evaluated on overall systems knowledge, procedural correctness, time management, cockpit management, and aircrew coordination.

Prerequisites. FCP-6610-FCP-6616, completion of the squadron academic syllabus, 50 HAC hours and as determined by squadron CO, AMO, QAO, and STAN Board.

215. AVIATION CAREER PROGRESSION MODEL (ACPM) 8000 PHASE

1. Purpose. To enhance professional understanding of Marine Aviation and the MAGTF and ensure individuals possess the requisite skills to fill battle command and battle staff positions in support of the ACE and the MAGTF in a joint environment. The focus of training in the Aviation Career Progression Model (ACPM) is on academic events in the following areas:

a. Marine Air Command and Control System (MACCS)

b. Aviation Ground Support

c. Joint Air Operations

d. ACE Battle Staff

e. MAGTF

f. Seabased Operations

g. Combatant Commander Organizations

2. General

a. The ACPM is intended to be an integrated series of academic events contained within each phase of training.

b. All ACPM classes are available on the MAWTS-1 NIPR website at https://www.intranet.tecom.usmc.mil/sites/mawts1/default.aspx

c. On the far left margin of the MAWTS-1 NIPR website, under documents is a tab for ACPM. Clicking on that tab will bring up viewing instructions, purpose, and the 3 ACPM categories (core skill, mission skill, flight leadership). Under the 3 category tabs, all the ACPM classes are listed in power point and media site format. Media site is the primary viewing form, backed up with power point slides, if necessary. For downloading classes, all the folders associated with each class (player, APP_themes, content, player options, etc) must be copied over to the selected computer.

d. These academic events can be given lecture style to an audience or done individually. If given as a lecture, those in attendance will sign an attendance roster and be given credit for the event by the PTO, or designated representative. The PTO or designated representative will then manually update MSHARP and the Pilot’s APR Section III, Aircrew Ground School Training section using Enclosure 1 of this document.

e. If done on a self-paced individual level, that individual will report to the PTO or designated representative, upon completion. The PTO or designated representative will then manually update MSHARP.

f. Pilots who have previously completed classes listed under the ACPM syllabus may be given grandfather status and manually updated via MSHARP by the PTO or designated representative, at the discretion of the Squadron Commanding Officer. Additional applicability is IAW NAVM C3500.14 Aviation T&R Program Manual, paragraph 212.

g. ACPM academic events are like any other academic event in that they serve as pre-requisites to selected flight events or stages.

h. Several ACPM academic events are integrated as prerequisites for flight leadership syllabi.

i. Squadron Commanding Officers shall ensure the requisite ACPM training requirements have been met prior to designating flight leaders.

j. ACPM academic events, along with their identifying prerequisite association with other training phases/stages/events are listed below.

TRAINING PHASE	ACPM ACADEMIC EVENT	PRE-REQUISITE TO
CORE SKILL	(U) ACPM-8200 MACCS AGENCIES, FUNCTIONS, AND CONTROL OF AIRCRAFT AND MISSILES	LLL STAGE
	(U) ACPM-8201 MWCS BRIEF	LLL STAGE
	(U) ACPM-8202 ACA & AIRSPACE	LLL STAGE
	(U) ACPM-8210 AVIATION GROUND SUPPORT	LLL STAGE
	(U) ACPM-8230 ACE BATTLESTAFF	LLL STAGE
	(U) ACPM-8231 BATTLE COMMAND DISPLAY	LLL STAGE
	(U) ACPM-8240 SIX FUNCTIONS OF MARINE AVIATION	LLL STAGE
	(U) ACPM-8241 ASR/JTAR INTRODUCTION AND PRACTICAL APPLICATION	LLL STAGE
	(U) ACPM-8242 SITE COMMAND PRIMER	LLL STAGE
	(U) ACPM-8250 THEATER AIR GROUND SYSTEM (TAGS)	LLL STAGE
MISSION SKILL	(U) ACPM-8300 AIR DEFENSE	EXP-3240
	(U) ACPM-8310 FORWARD ARMING REFUELING POINT (FARP) OPERATIONS	EXP-3240
	(U) ACPM-8311 MARINE CORPS TACTICAL FUEL SYSTEMS	EXP-3240
	(U) ACPM-8320 JOINT STRUCTURE AND JOINT AIR OPERATIONS	AT-3340
	(U) ACPM-8321 JOINT AIR TASKING CYCLE PHASE 1: STRATEGY DEVELOPMENT	AT-3340
	(U) ACPM-8322 JOINT AIR TASKING CYCLE PHASE 2: TARGET DEVELOPMENT	AT-3340
	(U) ACPM-8323 JOINT AIR TASKING CYCLE PHASE 3: WEAPONEERING AND ALLOCATION	AT-3340
	(U) ACPM-8324 JOINT AIR TASKING CYCLE PHASE 4: JOINT ATO PRODUCTION	AT-3340
	(U) ACPM-8325 JOINT AIR TASKING CYCLE PHASE 5: FORCE EXECUTION	AT-3340
	(U) ACPM-8326 JOINT AIR TASKING CYCLE PHASE 6: COMBAT ASSESSMENT	AT-3340
	(U) ACPM-8340 INTEGRATING FIRES AND AIRSPACE WITHIN THE MAGTF	AT-3340
	(U) ACPM-8350 PHASING CONTROL ASHORE	SEA-3140
	(U) ACPM-8351 TACRON ORGANIZATIONS AND FUNCTIONS	SEA-3140
FLIGHT LEADERSHIP	(U) ACPM-8630 TACTICAL AIR COMMAND CENTER (TACC)	SECTION LEADER STAGE
	(U) ACPM-8660 JOINT OPS INTRO	
	(U) ACPM-8640 JOINT DATA NETWORK	DIVISION LEADER STAGE
	(U) ACPM-8641 MAGTF THEATER AND NATIONAL ISR EMPLOYMENT	
	(U) ACPM-8620 ESG/CSG INTEGRATION	FLIGHT LEADER STAGE

k. At the completion of each ACPM event, the appropriate training code shall be logged in M-SHARP by the squadron Pilot Training Officer (PTO) or designated representative, as appropriate.

l. ACPM events do not have refly intervals.

216. T&R SYLLABUS MATRIX. The below matrix summarizes T&R syllabus event Information.

CH-53D/E CORE SKILL INTRODUCTION T&R MATRIX (1000 PHASE)																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN	REFLY	# OF ACAD	ACAD TIME	# OF SIM	SIM TIME	# OF FLTS	FLT TIME	PREREQUISITE	EVENT CONV
COMPUTER BASED TRAINING (CBT), ACADEMICS (ACAD), & LAB (LAB) STAGE																	
CBT	0001	INTRO TO THE CH-53	RE,MRE,SCE,CIUTE						*		**1.0**						N/A
CBT	0002	THE AUXILIARY POWER PLANT	RE,MRE,SCE,CIUTE						*		**1.0**					0001	N/A
CBT	0003	THE ELECTRIC SYSTEM	RE,MRE,SCE,CIUTE						*		**2.0**					0001	N/A
CBT	0004	HYDRAULIC SYSTEM	RE,MRE,SCE,CIUTE						*		**2.0**					0001	N/A
CBT	0005	FUEL SYSTEM	RE,MRE,SCE,CIUTE						*		**1.5**					0001	N/A
CBT	0006	ENGINES	RE,MRE,SCE,CIUTE						*		**2.5**					0001	N/A
CBT	0007	DRIVE TRAIN	RE,MRE,SCE,CIUTE						*		**2.5**					0001	N/A
CBT	0008	CHIP DETECTING SYSTEM	RE,MRE,SCE,CIUTE						*		**1.0**					0006,0007	N/A
CBT	0009	ROTOR SYSTEM	RE,MRE,SCE,CIUTE						*		**1.0**					0001	N/A
CBT	0010	FLIGHT CONTROL SYSTEM	RE,MRE,SCE,CIUTE						*		**3.0**					0004,0009	N/A
CBT	0011	AUTOMATED FLIGHT CONTROL SYSTEM (AFCS)	RE,MRE,SCE,CIUTE						*		**2.0**					0004,0010	N/A
CBT	0012	BLADE/PYLON FOLD AND ROTOR BRAKE SYSTEM	RE,MRE,SCE,CIUTE						*		**2.5**					0004	N/A
CBT	0013	LANDING GEAR AND WHEEL BRAKE SYSTEM	RE,MRE,SCE,CIUTE						*		**1.5**					0004	N/A
CBT	0014	MISCELLANEOUS SYSTEMS	RE,MRE,SCE,CIUTE						*		**3.0**					0001	N/A
CBT	0015	COMMUNICATION AND NAVIGATION SYSTEMS	RE,MRE,SCE,CIUTE						*		**2.0**					0001	N/A
CBT	0016	AIRCRAFT SURVIVABILITY EQUIPMENT	RE,MRE,SCE,CIUTE						*		**2.5**					0001	N/A
CBT	0017	PREFLIGHT PLANNING AND PROCEDURES	SCE,CIUTE						*		**2.0**					0001-0016	N/A
CBT	0018	INTRODUCTION TO THE FLIGHT PHASE	SCE,CIUTE						*		**3.0**					0017	N/A
CBT	0019	NIGHT FLIGHT	SCE,CIUTE						*		**1.5**					0017	N/A
CBT	0020	INSTRUMENT FLIGHT AND NAVIGATION	SCE,CIUTE						*		**2.5**					0017	N/A
CBT	0021	VFR NAVIGATION, GPS AND HELICOPTER NIGHT VISION SYSTEMS (HNVS)	SCE,CIUTE						*		**2.5**					0017	N/A
CBT	0022	FORMATION FLIGHT	SCE,CIUTE						*		**1.0**					0017	N/A
CBT	0023	CONFINED AREA LANDINGS	SCE,CIUTE						*		**1.0**					0017	N/A
CBT	0024	EXTERNAL CARGO OPERATIONS	SCE,CIUTE						*		**2.0**					0017	N/A
ACAD	0100	GROUND SCHOOL INTRO IN-BRIEF	CIUTE						*		**1.0**					0001-0016	N/A
ACAD	0101	ELECTRICAL SYSTEMS	CIUTE						*		**3.0**					0001-0016	N/A
ACAD	0102	HYDRAULIC SYSTEM	CIUTE						*		**3.0**					0001-0016	N/A
ACAD	0103	FUEL SYSTEM	CIUTE						*		**2.0**					0001-0016	N/A
ACAD	0104	ENGINES AND THE AUXILIARY POWER PLANT	CIUTE						*		**3.0**					0001-0016	N/A
ACAD	0105	DRIVE TRAIN AND ROTOR SYSTEM	CIUTE						*		**3.0**					0001-0016	N/A
ACAD	0106	FLIGHT CONTROL SYSTEM	CIUTE						*		**3.0**					0001-0016	N/A
ACAD	0107	AUTOMATED FLIGHT CONTROL SYSTEM (AFCS)	CIUTE						*		**2.0**					0001-0016	N/A
ACAD	0108	COMMUNICATION AND NAVIGATION SYSTEMS	CIUTE						*		**1.5**					0001-0016	N/A
ACAD	0109	CREW RESOURCE MANAGEMENT (CRM) INITIAL	CIUTE						*		**2.5**						N/A
ACAD	0200	WELCOME ABOARD	RD,MRD,SCD,CIUTD						*		**1.0**						N/A
ACAD	0201	CBTSs (ALL COURSEWARE COMPLETE)	RD,SCD,CIUTD						*		**91.0**						N/A
ACAD	0202	COURSE RULES BRIEF	RD,MRD,SCD,CIUTD						*		**2.0**						N/A
ACAD	0203	COURSE RULES TEST	RD,MRD,SCD,CIUTD						*		**1.0**						N/A
ACAD	0204	EP TEST	RD,MRD,SCD,CIUTD						*		**1.0**						N/A
ACAD	0205	LIMITS TEST	RD,MRD,SCD,CIUTD						*		**1.0**						N/A
ACAD	0206	OPEN BOOK NATOPS TEST	RD,MRD,SCD,CIUTD						*		**1.0**						N/A
ACAD	0207	CLOSED BOOK NATOPS TEST	RD,MRD,SCD,CIUTD						*		**2.0**						N/A

CH-53D/E CORE SKILL INTRODUCTION T&R MATRIX (1000 PHASE)																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN	REFLY	# OF ACAD	ACAD TIME	# OF SIM	SIM TIME	# OF FLTS	FLT TIME	PREREQUISITE	EVENT CONV
LAB	1000	INTRO TO PREFLIGHT INSPECTION	RD,MRD,SCD,RE,MRE,SCE						*		2.0					0200-0207 or 0100-0109	N/A
LAB	1001	PRACTICE PREFLIGHT INSPECTION	RD,MRD,SCD,RE,MRE,SCE						*		2.0					1000	N/A
LAB	1002	REVIEW PREFLIGHT INSPECTION	RD,MRD,SCD,RE,MRE,SCE						*		2.0					1001	N/A
TOTAL CBT, ACAD, & LAB STAGE										**45**	**145.5**	**0**	**0.0**	**0**	**0.0**		
FAMILIARIZATION (FAM) STAGE																	
SFAM	1100	INTRO TO COCKPIT PROCEDURES	RE,RD,MRD,SCE,SCD		S	1			*				1.0			0017	100
SFAM	1101	INTRO TO A/C EMERGENCIES	SCD		S	1			*				1.0			0018,1100	101
SFAM	1102	INTRO ENGINE MALFUNCTIONS	SCD		S	1			*				1.0			1101	102
SFAM	1103	INTRO RUNNING LANDINGS & AUTOS	SCD		S	1			*				1.0			1102	103
SFAM	1104	INTRO GEARBOX MALFUNCTIONS	SCD		S	1			*				1.0			1103	104
SFAM	1105	INTO CRM SKILLS	RE,RD,MRD,SCE		S	1			*				1.5			1104	105
SFAM	1106	PROGRESS CHECK	RE,RD,SCE		S	1			*				1.0			1105	106
SFAM	1107	NS ADAPTATION	SCD		S	1	NS		*				1.0			0019,1106	107
FAM	1110	INTRO COCKPIT & FLIGHT PROCEDURES	SCE		A	1			*						1.5	1002,1106	110
FAM	1111	INTRO PRECISION HOVER/LOW WORK			A	1			*						1.5	1110	111
FAM	1112	INTRO ENG FAILURES, RUNNING LANDINGS	MRD		A	1			*						1.5	1111	112
FAM	1113	INTRO NO HOVER LANDINGS			A	1			*						1.5	1112	113
FAM	1114	INTRO PARTIAL/TOTAL AFCS FAILURE	MRE,RE,RD,SCE		A	1			*						1.5	1113	114
FAM	1115	INTRO HIGH AOB MANEUVERS & AUTOS			A	1			*						1.5	1114	115
FAM	1116	PRACTICE ALL FAMS & EPS	MRE,RE,SCE,MRD,RD		A	1			*						1.5	1115	116
FAM	1117	PRACTICE ALL FAMS & EPS			A	1			*						1.5	1116	117
FAM	1118	REVIEW ALL FAMS & EPS	RE,RD,SCE		A	1			*						1.5	1117	118
FAM	1119	PROGRESS CHECK			A	1			*						1.5	1118	119
FAM	1120	53D CHARACTERISTICS & FAM MAN	SCD		A	1			*						1.5	1100-1104	123
FAM	1121	53D EPS & FAMS	SCD		A	1			*						2.0	1120	124
FAM	1201	INTRO NS LOW AND PATTERN WORK			A	1	NS		*						1.5	1107,1600	121
FAM	1202	PRACTICE NS LOW AND PATTERN WORK	MRE,MRD,RE,RD,SCE		A	1	NS		*						1.5	1201	122
TOTAL FAM STAGE										**0**	**0.0**	**8**	**8.5**	**14**	**21.5**		
INSTRUMENT (INST) STAGE																	
SINST	1300	INTRO BASIC INSTRUMENTS	SCD		S	1			*				1.0			0020	130
SINST	1301	INTRO PARTIAL PANEL	RE,RD,SCE		S	1			*				1.0			1300	131
SINST	1302	INTRO ILS/LOCALIZER	RE,SCE		S	1			*				1.0			1301	132
SINST	1303	INTRO UNUSUAL ATTITUDES	RD,SCD		S	1			*				1.0			1302	133
SINST	1304	INTRO IFR LOST COMM			S	1			*				1.0			1303	134
INST	1305	INTRO BASIC INSTRUMENTS	MRE,MRD,RE,RD,SCE		A	1	(N)		*						2.0	1304	136
INST	1306	INSTRUMENT PROGRESS CHECK	RE,RD		A	1	(N)		*						1.5	1305	138
INST	1307	53D INSTRUMENT FLIGHT	SCD		A	1	(N)		*						2.0	1120,1300,1303	139
TOTAL INST STAGE										**0**	**0.0**	**5**	**5.0**	**3**	**5.5**		
NAVIGATION (NAV) STAGE																	
SNAV	1400	INTRO FLIGHT PLANNING SOFTWARE, GPS, HNVS			S	1			*				1.0			0021	140
TOTAL NAV STAGE										**0**	**0.0**	**1**	**1.0**	**0**	**0.0**		
FORMATION (FORM) STAGE																	

CH-53D/E CORE SKILL INTRODUCTION T&R MATRIX (1000 PHASE)																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN	REFLY	# OF ACAD	ACAD TIME	# OF SIM	SIM TIME	# OF FLTS	FLT TIME	PREREQUISITE	EVENT CONV
SFORM	1500	INTRO DAY FORM	RE,RD,SCE		S	1			*				1.0			0022	150
FORM	1501	INTRO PARADE, CRUISE AND SEC LANDING	MRE,MRD,RE,RD,SCE		A	2			*						2.0	1400,1500,(1601 IF CAL)	151
FORM	1502	INTRO NS FORM			A	2	NS		*					1	2.0	1202,1501,1602, 1603	152
TOTAL FORM STAGE										**0**	**0.0**	**1**	**1.0**	**1**	**4.0**		
CONFINED AREA LANDING (CAL)STAGE																	
SCAL	1600	INTRO NS CALS	SCD		S	1	NS		*				1.0			0019, 1107	160
CAL	1601	DAY CALS	MRE,MRD,RE,RD,SCE,SCD		A	1			*						1.5	1111	161
CAL	1602	INTRO SEC CALS	SCD		A	2			*						1.5	1501,1601	162
CAL	1603	INTRO NS CALS			A	1	NS		*						1.5	1202,1600,1601	163
CAL	1604	INTRO NS SECTION CALS			A	2	NS		*						1.5	1502,1603,1602	164
TOTAL CAL STAGE										**0**	**0.0**	**1**	**1.0**	**4**	**4.5**		
EXTERNAL (EXT) STAGE																	
SEXT	1700	INTRO SINGLE AND DUAL POINTS	MRE,RE,RD,SCE,SCD		S	1			*				2.0			0024	
EXT	1701	INTRO SINGLE POINT	MRD,RD,SCD,SCE		A	1			*						1.5	1700,1601	170
EXT	1702	INTRO NS SINGLE POINT	RD,SCE		A	1	NS		*						1.5	1603,1701	171
EXT	1703	INTRO DUAL POINT	MRE,RE,SCE		A	1			*						1.5	1701	172
EXT	1704	INTRO NS DUAL POINT	RE,SCE		A	1	NS		*						1.5	1702,1703	173
TOTAL EXT STAGE										**0**	**0.0**	**1**	**2.0**	**4**	**6.0**		
TERRAIN FLIGHT (TERF) STAGE																	
STERF	1800	INTRO TERF MANEUVERS	RD,SCD		S	1			*				1.0			2011	180
TERF	1801	INTRO TERF	RE,RD,SCE,SCD		A	1			*						1.5	1601, 1800	181
TOTAL TERF STAGE										**0**	**0.0**	**1**	**1.0**	**1**	**1.5**		
CORE SKILL INTRODUCTION REVIEW (REV) STAGE																	
SREV	1900	REVIEW CSII TRAINING	RE,SCE		S	1			*				1.5			FAM-1119	
REV	1901	REVIEW CSII TRAINING	RD,SCD		A	1			*						1.5	ACAD 0206-0207	190
TOTAL REV STAGE										**0**	**0.0**	**1**	**1.5**	**1**	**1.5**		
CORE SKILL INTRODUCTION EVALUATION (CSIX) STAGE																	
CSIX	1902	H2P CHECK	MRE,MRD,RE,RD,SCE,SCD	E	A	1			*						2.0	1901 or 1900 for RE, SCE	191
TOTAL CSIX STAGE										**0**	**0.0**	**0**	**0.0**	**1**	**2.0**		
TOTAL CORE SKILL INTRODUCTION PHASE										**48**	**146.5**	**19**	**21.0**	**29**	**46.5**		

CH-53D/E T&R MATRIX																	
STAGE	EVENT #	T&R DESCRIPTION	POI	E	DEV	# A/C	CON	TEN+	RE FLY	# OF ACAD	ACAD HRS	# OF SIM	SIM HRS	# OF FLTS	FLT HRS	PREREQUISITE	EVENT CONV
2000 PHASE - CORE SKILL BASIC																	
ACADEMIC STAGE (ACAD)																	
ACAD	2000	CH-53 GPS (FAM)	B						*	1	**1.0**						N/A
ACAD	2001	ARC-210/HAVEQUICK/SINCGARS(*)	B,R						365	1	**1.0**						N/A
ACAD	2002	AN/AYK-28	B						*	1	**.8**						N/A
ACAD	2003	CH-53 INTERNAL CARGO OPERATIONS	B						*	1	**1.0**						N/A
ACAD	2004	CH-53 AAR/ALE-47 (*)	B,R						365	1	**1.5**						N/A
ACAD	2005	CH-53 TACFORM	B						*	1	**1.0**						N/A
ACAD	2006	CH-53 PFPS TECHNIQUES	B						*	1	**2.0**						N/A
ACAD	2007	DESERT OPERATIONS (*)	B,R						365	1	**1.0**						N/A
ACAD	2008	MOUNTAIN OPERATIONS(*) (CAL)	B,R						365	1	**1.0**						N/A
ACAD	2009	COMBAT AIRCREW COORDINATION	B						*	1	**1.0**						N/A
ACAD	2010	HUD	B						*	1	**1.0**						N/A
ACAD	2011	ASD TERRAIN FLIGHT (TERF)	B						*	1	**1.0**						N/A
ACAD	2012	CH-53 APR-39 (*)	B,R						365	1	**.5**						N/A
ACAD	2013	SURFACE TO AIR THREAT TO THE MAGTF	B						*	1	**.5**						N/A
ACAD	2014	HEAVY LIFT OPERATIONS(*) (EXT)	B,R						365	1	**1.0**						N/A
ACAD	2015	ASSAULT SUPPORT TO ARTILLERY	B						*	1	**1.0**						N/A
ACAD	2016	CH-53 DM/GTR I (GTR)	B						*	1	**1.0**						N/A
ACAD	2017	IR SAM THREAT TO ASSAULT SUPPORT(*)	B,R						365	1	**1.8**						N/A
ACAD	2018	CH-53 ALQ-157(*)	B,R						365	1	**1.0**						N/A
ACAD	2019	AAQ-24(*)	B,R						365	1	**1.0**						N/A
ACAD	2020	AAA THREAT TO ASSAULT SUPPORT	B						*	1	**.8**						N/A
ACAD	2021	EVASIVE MANEUVERS	B						*	1	**1.0**						N/A
ACAD	2022	HAAR(*) (AR)	B,RE, SCE						365	1	**1.0**						N/A
ACAD	2023	CH-53 WEAPONS SYSTEMS AND TRAINING (AG)	B						*	1	**1.0**						N/A
ACAD	2024	WEAPONS EMPLOYMENT TECHNIQUES	B						*	1	**1.0**						N/A
ACAD	2025	INTRO TO LASER SYSTEMS AND SAFETY	B						*	1	**1.0**						N/A
ACAD	2026	MAGTF FSCMS (MARINE NET CLASS)	B,R						365	1	**1.0**						N/A
ACAD	2027	OBJECTIVE AREA PLANNING(*) (TAC)	B,R						365	1	**1.0**						N/A
ACAD	2028	ROE	B						*	1	**1.0**						N/A
ACAD	2029	EXECUTION CHECKLIST	B						*	1	**.5**						N/A
ACAD	2030	MISSION ANALYSIS(*)	B,R						365	1	**1.5**						N/A
ACAD	2031	ASSAULT NVG PREFLIGHT AND ADJUSTMENT	B						*	1	**1.0**						N/A
ACAD	2032	NVG SYSTEMS AND IMAGE CHARACTERISTICS	B						*	1	**1.0**						N/A

CH-53D/E T&R MATRIX

STAGE	EVENT #	T&R DESCRIPTION	POI	E	DEV	# A/C	CON	TEN+	RE FLY	# OF ACAD	ACAD HRS	# OF SIM	SIM HRS	# OF FLTS	FLT HRS	PREREQUISITE	EVENT CONV
ACAD	2033	THE NIGHT ENVIRONMENT (HLL)	B						*	1	**1.0**						N/A
ACAD	2034	MISPERCEPTIONS AND ILLUSIONS	B						*	1	**1.0**						N/A
ACAD	2035	NIGHT ROUTE PLANNING CONSIDERATIONS	B						*	1	**1.0**						N/A
ACAD	2036	NIGHT OPERATIONS AND PLANNING AIDS	B						*	1	**1.0**						N/A
ACAD	2037	HUMAN FACTORS	B						*	1	**1.0**						N/A
ACAD	2038	FLIR TRAINING COURSE	B						*	1	**1.0**						N/A
ACAD	2039	CH-53 HNVS FLIR (LLL)	B						*	1	**1.0**						N/A
ACAD	2040	ASSAULT SUPPORT ESCORT TACTICS	B						*	1	**1.0**						N/A
ACAD	2041	BATTLEFIELD ILLUMINATION AND FW ITG	B						*	1	**.5**						N/A
TOTAL ACAD STAGE										42	**42.4**	0	**0.0**	0	**0.0**		
FAMILIARIZATION / INSTRUMENT STAGE (FAM/INST)																	
SFAM	2100	SIM FAM, INSTR, EP	B,R	E	S	1	(N)		90			1	**1.5**			1902	200
FAM	2101	DAY HUD FAM/CAL	B,RE, SCE		S/A	1			*			1	**1.5**			2100	N/A
FAM	2105	FAM, INSTR, EP	B,R		A	1	(N)		365					1	**1.5**	2100	201
TOTAL FAM/INST STAGE										0	**0.0**	2	**3.0**	1	**1.5**		
FORMATION STAGE (FORM)																	
FORM	2110	DAY FORM	B,R		A	2			365					1	**1.5**	2005,2105	210
TOTAL FORM STAGE										0	**0.0**	0	**0.0**	1	**1.5**		
CONFINED AREA LANDING STAGE (CAL)																	
CAL	2210	CALS	B,R		A	1			365					1	**1.5**	2101, 2105	220
CAL	2211	SECTION CALS	B,R,SC		A	2			365					1	**1.5**	2110,2210	221
TOTAL CAL STAGE										0	**0.0**	0	**0.0**	2	**3.0**		
TERRAIN FLIGHT STAGE (TERF)																	
TERF	2310	TERF	B		A	1			365					1	**1.5**	2105,2011	230
TERF	2311	SECTION TERF	B,R,SC	E	A	2			365					1	**1.5**	2110,2310	231
TOTAL TERF STAGE										0	**0.0**	0	**0.0**	2	**3.0**		
EXTERNAL STAGE (EXT)																	
SEXT	2400	HEAVY LIFT EXTERNALS SIM	B,R		S	1			*			1	**1.5**			1902,2101	340
EXT	2410	SINGLE POINT EXTERNALS	B,RD,SC		A	1			365					1	**1.5**	2014,2210	240
EXT	2411	DUAL POINT EXTERNALS	B,RE, SCE		A	1			365					1	**1.5**	2014,2210	241
EXT	2420	HLL SINGLE POINT EXTERNALS	B,RD,SC		A	1	NS		180					1	**1.5**	2220,2410	243
EXT	2421	HLL DUAL POINT EXTERNALS	B,RE, SCE		A	1	NS		180					1	**1.5**	2220,2411	244

CH-53D/E T&R MATRIX																	
STAGE	**EVENT #**	**T&R DESCRIPTION**	**POI**	**E**	**DEV**	**# A/C**	**CON**	**TEN+**	**RE FLY**	**# OF ACAD**	**ACAD HRS**	**# OF SIM**	**SIM HRS**	**# OF FLTS**	**FLT HRS**	**PREREQUISITE**	**EVENT CONV**
EXT	2430	LLL EXTERNAL	B,R,SC		A	1	NS		180					1	**1.5**	2230,2420,2421, NSQ-HLL	342
EXT	2441	HEAVY LIFT EXTERNALS	B,R		A	1	(NS)		365					1	**1.5**	2400,2410,2421~NS, 2430~LLL	341
TOTAL EXT STAGE										0	**0.0**	1	**1.5**	6	**9.0**		
GROUND THREAT REACTION STAGE (GTR)																	
SGTR	2500	GTR & ASE FAM SIM	B		S	2		X	*			1	**1.5**			2016,2311	250
GTR	2540	NON RADAR GTR	B,R		A	2	(NS)		365					1	**1.5**	2311,2500,2321~NS,2331~LLL,2810~ORD	350
TOTAL GTR STAGE										0	**0.0**	1	**1.5**	1	**1.5**		
HELICOPTER AIR TO AIR REFUELING STAGE (HAAR)																	
SHAAR	2600	DAY HAAR SIM	B,SCE		S	1			*			1	**1.5**			2105	260
SHAAR	2601	NS HAAR SIM	B,SCE		S	1	NS		*			1	**1.5**			2600	N/A
HAAR	2610	DAY HAAR LEFT HOSE PREFERRED	B,SCE		A	1			*					1	**1.5**	2110, 2600	360
HAAR	2611	DAY HAAR LEFT & RIGHT HOSE	B,RE, SCE		A	1			210					1	**1.5**	2610	361
HAAR	2640	NS HAAR	B,RE, SCE		A	1	NS		210					1	**1.5**	2101,2120,2601,2611, NSQ-HLL	362
TOTAL HAAR STAGE										0	**0.0**	2	**3.0**	3	**4.5**		
FIELD CARRIER LANDING PRACTICE STAGE (FCLP)																	
SFCLP	2700	SIM CQ	B		S	1	(N)		*			1	**1.5**				270
FCLP	2710	DAY FCLP	B,R,SC		A	1			365					1	**1.5**	2210,2700	271
FCLP	2742	NS FCLP	B,R,SC		A	1	NS		365					1	**1.5**	2220,2230,2710	273
TOTAL CQ STAGE										0	**0.0**	1	**1.5**	2	**3.0**		
AERIAL GUNNERY STAGE (AG)																	
AG	2810	AERIAL GUNNERY	B		A	1			*					1	**1.5**	2105	280
AG	2840	NS GUNNERY	B,R		A	1	NS		485					1	**1.5**	2101,2810,NSQ-HLL	380
TOTAL AG STAGE										0	**0.0**	0	**0.0**	2	**3.0**		
TACTICS STAGE (TAC)																	
TAC	2910	LOW THREAT LEVEL TACTICS	B	E	A	2			365					1	**2.0**	2211,2311,2810	290
TAC	2911	MEDIUM THREAT LEVEL TACTICS	B,R	E	A	2			365					1	**2.0**	2910	390
TOTAL TAC STAGE										0	**0.0**	0	**0.0**	2	**4.0**		
NIGHT SYSTEMS HIGH LIGHT LEVEL STAGE (NS HLL)																	
SHLL	2102	HLL NS, HNVS, HUD FAM	B,RE, SCE		S/A	1	NS		*			1	**1.5**			2100,2101	202
HLL	2120	HLL FORM	B,R		A	2	NS		180					1	**1.5**	2102,2110	211
HLL	2220	HLL CALS	B		A	1	NS		180					1	**1.5**	2102,2210	222
HLL	2221	HLL SECTION CALS	B,R,SC		A	2	NS		180					1	**1.5**	2120,2211,2220	223

CH-53D/E T&R MATRIX																	
STAGE	**EVENT #**	**T&R DESCRIPTION**	**POI**	**E**	**DEV**	**# A/C**	**CON**	**TEN+**	**RE FLY**	**# OF ACAD**	**ACAD HRS**	**# OF SIM**	**SIM HRS**	**# OF FLTS**	**FLT HRS**	**PREREQUISITE**	**EVENT CONV**
HLL	2320	HLL TERF	B		A	1	NS		180					1	**1.5**	2102,2310	232
HLL	2321	HLL SECTION TERF	B,R,SC		A	2	NS		180					1	**1.5**	2120,2311,2320	233
HLL	2920	HLL CHECK/LOW THREAT TACTICS	B,R	E	A	2	NS		365					1	**2.0**	2221,2222,2321,2910	291
TOTAL NS HLL STAGE										0	**0.0**	1	**1.5**	6	**9.5**		
NIGHT SYSTEMS LOW LIGHT LEVEL STAGE (NS LLL)																	
LLL	2230	LLL CALS	B		A	1	NS		180					1	**1.5**	2420,2421,NSQ-HLL	320
LLL	2231	LLL SECTION CALS	B,R,SC		A	2	NS		180					1	**1.5**	2230	321
LLL	2330	LLL TERF	B		A	1	NS		180					1	**1.5**	2420,2421,NSQ-HLL	330
LLL	2331	LLL SECTION TERF	B,R,SC		A	2	NS		180					1	**1.5**	2330	331
LLL	2930	LLL CHECK/MED THREAT TACTICS	B,R	E	A	2	NS		365					1	**2.0**	2231,2331,2911	391
TOTAL NS LLL STAGE										0	**0.0**	0	**0.0**	5	**8.0**		
CORE SKILL PHASE TOTAL										42	**42.4**	8	**12.0**	36	**51.5**		
3000 PHASE - MISSION SKILLS																	
ACADEMIC STAGE (ACAD)																	
ACAD	3000	RAPID RESPONSE PLANNING	B							1	**1.0**						N/A
ACAD	3001	REC THREAT TO THE MAGTF	B							1	**.7**						N/A
ACAD	3002	NEO EXECUTION	B							1	**.8**						N/A
ACAD	3003	INTELL PREP OF THE BATTLESPACE	B							1	**.8**						N/A
ACAD	3004	PERSONNEL RECOVERY	B							1	**1.0**						N/A
ACAD	3005	CH-53 SPECIFIC TRAP TTPs	B							1	**.8**						N/A
ACAD	3006	CASEVAC	B							1	**.5**						N/A
ACAD	3007	CIRCADIAN RHYTHM AND FATIGUE	B							1	**1.0**						N/A
ACAD	3008	INTRO TO NVG TACTICAL EMPLOYMENT	B							1	**1.0**						N/A
TOTAL ACAD STAGE										9	**7.6**	0	**0.0**	0	**0.0**		
EXPEDITIONARY SHORE BASED OPERATIONS STAGE (EXP)																	
EXP	3140	EXPEDITIONARY SHORE BASED TAC	B,R	E	A/S	1+	(N)	X	365					1	**2.0**	3000,3001,8300,8310, 8311,NSQ-LLL	N/A
TOTAL EXP STAGE										0	**0.0**	0	**0.0**	1	**2.0**		
ASSAULT TRANSPORT STAGE (AT)																	
AT	3240	ASSAULT TRANSPORT TACTICS	B,R	E	A/S	1+	(N)	X	365					1	**2.0**	3002,3003,8320, NSQ-LLL	N/A
TOTAL AT STAGE										0	**0.0**	0	**0.0**	1	**2.0**		
AERIAL DELIVERY STAGE (AD)																	
AD	3340	AERIAL DELIVERY TACTICS	B,R	E	A/S	1+	(N)	X	365					1	**2.0**	8321,8322,8323,8324, 8325,8326,NSQ-LLL	N/A
TOTAL AD STAGE										0	**0.0**	0	**0.0**	1	**2.0**		

CH-53D/E T&R MATRIX																	
STAGE	**EVENT #**	**T&R DESCRIPTION**	**POI**	**E**	**DEV**	**# A/C**	**CON**	**TEN+**	**RE FLY**	**# OF ACAD**	**ACAD HRS**	**# OF SIM**	**SIM HRS**	**# OF FLTS**	**FLT HRS**	**PREREQUISITE**	**EVENT CONV**
TACTICAL RECOVERY OF AIRCRAFT AND PERSONNEL STAGE (TRAP)																	
TRAP	3440	TRAP TACTICS	B,R	E	A/S	1+	(N)	X	365					1	**2.0**	3004,3005,8340, NSQ-LLL	N/A
TOTAL TRAP STAGE										0	**0.0**	0	**0.0**	1	**2.0**		
AIR EVACUATION STAGE (AE)																	
AE	3540	AERIAL EVACUATION TACTICS	B,R	E	A/S	1+	(N)	X	365					1	**2.0**	3006,3007.3008,8350, 8351,NSQ-LLL	N/A
TOTAL AE STAGE										0	**0.0**		**0.0**	1	**2.0**		
TOTAL MISSION PHASE										9	**7.6**	0	**0.0**	5	**10.0**		
4000 PHASE – CORE PLUS																	
ACADEMIC STAGE (ACAD)																	
ACAD	4000	RF SAM	B						*	1	**.5**						N/A
ACAD	4001	DM GAME PLANNING	B						*	1	**.7**						N/A
ACAD	4002	CH-53 DM/GTR II	B						*	1	**1.5**						N/A
ACAD	4003	HELICOPTER PS AND EM	B						*	1	**1.0**						N/A
ACAD	4004	FW THREAT TO ASSAULT SUPPORT	B						*	1	**1.0**						N/A
ACAD	4005	ATTACK HELO THREAT TO ASSAULT SUPPORT	B						*	1	**.5**						N/A
ACAD	4006	RGR	B						*	1	**1.0**						N/A
ACAD	4007	MOUT	B						*	1	**1.5**						N/A
ACAD	4008	JCAS	B						*	1	**1.0**						N/A
ACAD	4009	GCE RAID PLANNING	B						*	1	**.8**						N/A
ACAD	4010	MAGTF TARGETING AND FIRE SUPPORT PLANNING	B						*	1	**1.0**						N/A
ACAD	4011	TBFDS/MK-105	B						*	1	**1.0**						N/A
TOTAL ACAD STAGE										12	**11.5**	0	**0.0**	0	**0.0**		
HELICOPTER INSERTION & EXTRACTION TECHNIQUES STAGE (HIE)																	
HIE	4110	HELOCAST	B,R		A	1			*					1	**1.5**	2310	401
HIE	4140	FASTROPE/SPIE/RAPEL	B,SC		A	1	(NS)		*					1	**1.5**	2210,2920~NS,2930~LLL	400
HIE	4141	PARA OPS	B		A	1	(NS)		*					1	**1.5**	2210,2920~NS,2930~LLL	402
TOTAL HIE STAGE										0	**0.0**	0	**0.0**	3	**4.5**		
TERRAIN FLIGHT EXTERNALS STAGE (TERF EXT)																	
SEXT	4412	DAY TERF EXTERNALS	B,R,SC		S/A	1			365			1	**1.5**			2210,2310,2410,2411, 2500	242
SEXT	4440	NS TERF EXTERNALS	B,R,SC		S/A	1	NS		365			1	**1.5**			2320,2420,2421,4412 ~NS. 2330,2430~LLL	343
TOTAL EXT STAGE												2	**3.0**				

CH-53D/E T&R MATRIX																	
STAGE	**EVENT #**	**T&R DESCRIPTION**	**POI**	**E**	**DEV**	**# A/C**	**CON**	**TEN+**	**RE FLY**	**# OF ACAD**	**ACAD HRS**	**# OF SIM**	**SIM HRS**	**# OF FLTS**	**FLT HRS**	**PREREQUISITE**	**EVENT CONV**
GROUND THREAT REACTION STAGE (GTR)																	
GTR	4540	RADAR GTR	B,R		A	2	(NS)							1	**1.5**	2311,2500,4000	450
TOTAL GTR STAGE										0	**0.0**	0	**0.0**	1	**1.5**		
DEFENSIVE MEASURES STAGE (DM)																	
DM	4510	RW DM	B,R		A	2			365					1	**1.5**	2311,4001-4005	451
DM	4511	FW DM	B,R		A	2			365					1	**1.5**	2311,4001-4005	452
TOTAL DM STAGE										0	**0.0**			2	**3.0**		
CHEMICAL, BIOLOGICAL, RADIATION, AND NUCLEAR STAGE (CBRN)																	
SCBRN	4600	CBRN FAM	B		S/A	2	(N)	X	*			1	**1.5**			2105,2220,2230	460
TOTAL CBRN STAGE										0	**0.0**	1	**1.5**	0	**0.0**		
CARRIER QUALIFICATION STAGE (CQ)																	
CQ	4711	DAY CQ	B,R,SC		A	1			365					1	**1.5**	2710	470
CQ	4743	NS CQ	B,R,SC		A	1	NS		365					1	**1.5**	2742,4711, NSQ-HLL	472
TOTAL CQ STAGE										0.0	**0.0**	0.0	**0.0**	2	**3.0**		
TACTICS STAGE (TAC)																	
TAC	4940	DIV TACTICS	B,R	E	A	3+	(NS)		365					1	**2.0**	2911,2920~NS,2930~LLL	490/ 491
TAC	4941	URBAN TACTICS	B,R	E	A	2	NS		365					1	**2.0**	2911,4007, 2920~NS,2930~LLL	492
TAC	4942	LONG RANGE TACTICS	B,R	E	A	2	(NS)		365					1	**4.0**	2911,4006, 2920~NS,2930~LLL	493
TOTAL TAC STAGE										0	**0.0**	0	**0.0**	3	**8.0**		
RAID STAGE (RAID)																	
RAID	4980	RAID TACTICS	B,R	E	A/S	1+	(N)	X	365					1	**2.0**	2930,4008,4009,4010	N/A
TOTAL RAID STAGE										0	**0.0**	0	**0.0**	1	**2.0**		
AVIATION DELIVERED GROUND REFUELING STAGE (ADGR)																	
ADGR	4981	ADGR TACTICS	B,R	E	A/S	1+	(N)	X	365					1	**2.0**	2930,4011,NSQ-LLL	N/A
TOTAL ADGR STAGE										0	**0.0**	0	**0.0**	1	**2.0**		
SEA BASED OPERATIONS STAGE STAGE (SEA)																	
SEA	4982	SEA BASED TACTICS	B,R	E	A/S	1+	(N)	X	365					1	**2.0**	NSQ-LLL,4711~DAY, 4743~NS	N/A
TOTAL SEA STAGE										0	**0.0**	0		1	**2.0**		
TOTAL CORE PLUS PHASE										12	**11.5**	3	**4.5**	14	**26.0**		

STAGE	EVENT	T&R DESCRIPTION	POI	DEVICE	NUMBER	COND	REFLY	E	TEN+	# OF ACAD	ACAD HOURS	# OF SIM	SIM HOURS	# OF FLTS	FLIGHT HOURS	PREREQUISITE	EVENT CONV
INSTRUCTOR TRAINING (5000 PHASE)																	
ACADEMICS STAGE (ACAD)																	
ACAD	5000	INSTRUCTIONAL TECHNIQUES	B				*			**1**	**1.0**						N/A
TOTAL ACAD STAGE										**1**	**1.0**	**0**	**0.0**	**0**	**0.0**		
BASIC INSTRUCTOR STAGE (BIP)																	
SBIP	5100	BIP IUT FAM/CAL/INST	B	S	1	D	*					**1**	**1.5**			NSQ-LLL,Core&Mission Skill complete	N/A
SBIP	5101	BIP IUT EXT/CQ	B	S	1	D	*					**1**	**1.5**			5100	N/A
BIP	5110	BIP CHECK	B	A	1	D	*	E						**1**	**1.5**	5101	N/A
TOTAL BIP STAGE										**0**	**0.0**	**2**	**3.0**	**1**	**1.5**		
TERF INSTRUCTOR STAGE (TERFI)																	
TERF	5200	TERFI UT 1 A/C TERF	B	A	1	D	*							**1**	**1.5**	2310,5000,5110,6203	570
TERF	5201	TERFI UT EXT	B	A	1	D	*							**1**	**1.5**	4412,5000,5110,6203	571
TERF	5202	TERFI CHECK	B,R	A	2	D	*	E						**1**	**1.5**	5200,5201	572
TOTAL TERFI STAGE										**0**	**0.0**	**0**	**0.0**	**3**	**4.5**		
AERIAL REFUELING INSTRUCTOR STAGE (ARI)																	
ARI	5300	ARI UT DAY	B	A	1	D	*							**1**	**1.5**	2022,2611,4942,6203	520
ARI	5301	ARI NIGHT CHECK	B,R	A	1	NS	*	E						**1**	**1.5**	2640, 5300	521
TOTAL ARI STAGE										**0**	**0.0**	**0**	**0.0**	**2**	**3.0**		
FLEET REPLACEMENT SQUADRON INSTRUCTOR D STAGE (FRSI D)																	
FRSI D	5400	FRSI D UT FAM/INST	B	A	1	D	*							**1**	**2.0**	2105,5202,6203	550
FRSI D	5401	FRSI D UT CAL/EXT	B	A	1	D	*							**1**	**2.0**	2105,2410,5400	551
FRSI D	5402	FRSI D CHECK	B,R	A	1	D	*	E						**1**	**1.5**	5401,6000,6001	552
TOTAL FRSI D STAGE										**0**	**0.0**	**0**	**0.0**	**3**	**5.5**		
FLEET REPLACEMENT SQUADRON INSTRUCTOR E STAGE (FRSI E)																	
FRSI E	5500	FRSI E UT DAY FAM	B	A	1	D	*							**1**	**1.5**	6203,5202	553
FRSI E	5502	FRSI E UT INSTR	B	S/A	1	(N)	*					**1**	**2.0**			6203,5202	555
FRSI E	5503	FRSI E UT DAY CAL	B	A	1	D	*							**1**	**1.5**	5500	556
FRSI E	5504	FRSI E UT DAY FORM	B	A	2	D	*							**1**	**1.5**	5500	557
FRSI E	5505	FRSI E UT EXT	B	A	1	D	*							**1**	**1.5**	5500	558
FRSI E	5506	FRSI E CHECK	B,R	A	1	(N)	*	E						**1**	**1.5**	5500-5505	559
TOTAL FRSI STAGE										**0**	**0.0**	**1**	**2.0**	**5**	**7.5**		
NIGHT SYSTEM FAMILIARIZATION INSTRUCTOR STAGE (NSFI)																	
NSFI	5600	NSFI UT HLL NS FAM	B	A	1	NS	*							**1**	**1.5**	COURSE CATALOG	560
NSFI	5601	NSFI UT HLL NS FORM	B	A	2	NS	*							**1**	**1.5**	COURSE CATALOG	561
NSFI	5602	NSFI UT HLL EXT	B	A	1	NS	*							**1**	**1.5**	COURSE CATALOG	562
NSFI	5603	NSFI CHECK	B,R	A	1	NS	*	E						**1**	**1.5**	COURSE CATALOG	N/A
TOTAL NSFI STAGE										**0**	**0.0**	**0**	**0.0**	**4**	**6.0**		
DEFENSIVE MEASURES INSTRUCTOR STAGE (DMI)																	
DMI	5700	2 V GROUND THREAT	B	A	2	D	*							**1**	**1.5**	COURSE CATALOG	580
DMI	5701	2 V FW/RW	B	A	2	D	*							**1**	**1.5**	COURSE CATALOG	581
DMI	5702	2 V FW/RW	B,R	A	2	D	*	E						**1**	**1.5**	COURSE CATALOG	582
TOTAL DMI STAGE										**0**	**0.0**	**0**	**0.0**	**3**	**4.5**		

STAGE	EVENT	T&R DESCRIPTION	POI	DEVICE	NUMBER	COND	REFLY	E	TEN+	# OF ACAD	ACAD HOURS	# OF SIM	SIM HOURS	# OF FLTS	FLIGHT HOURS	PREREQUISITE	EVENT CONV
NIGHT SYSTEMS INSTRUCTOR STAGE (NSI)																	
SNSI	5800	ANVIS HUD	B	S/A		NS	*					1	1.5			COURSE CATALOG	590
NSI	5801	NSI UT LOW WORK	B	A	1	NS	*							1	1.5	COURSE CATALOG	591
NSI	5802	NSI UT CALS/EXT	B	A	1	NS	*							1	1.5	COURSE CATALOG	592
NSI	5803	NSI UT TERF	B	A	2	NS	*							1	1.5	COURSE CATALOG	593
NSI	5804	NSI UT TACEX	B	A	2	NS	*							1	1.5	COURSE CATALOG	594
NSI	5805	NSI CHECK	B,R	A	2	NS	*	E						1	4.5	COURSE CATALOG	595
TOTAL NSI STAGE										**0**	**0.0**	**1**	**1.5**	**5**	**10.5**		
TOTAL INSTRUCTOR TRAINING PHASE										**1**	**1.0**	**4**	**6.5**	**23**	**42.5**		
5000 PHASE CONTRACT INSTRUCTOR POI																	
CIUTE COMPUTER BASED TRAINING STAGE (CBT 0001-0024)																	
TOTAL CIUTE CBT STAGE										**24**	**46.5**	**0**	**0.0**	**0**	**0.0**		
CIUTE ACADEMICS STAGE (ACAD 0100-0109)																	
TOTAL CIUTE ACAD STAGE										**10**	**24.0**	**0**	**0.0**	**0**	**0.0**		
CIUTD ACADEMIC STAGE (ACAD 0200-0207)																	
TOTAL CIUTD ACAD STAGE										**8**	**99.0**	**0**	**0.0**	**0**	**0.0**		
TOTAL ACAD STAGE										**42**	**169.5**	**0**	**0.0**	**0**	**0.0**		
CI SIMULATOR FAM STAGE (SFAM)																	
CIUT	5900	INTRO TO COCKPIT PROCEDURES	CIUTE, CIUTD	S	1	D	*					1	1.0			CBT AND ACAD COMP	N/A
CIUT	5901	INTRO TO A/C EMERGENCIES	CIUTE, CIUTD	S	1	D	*					1	1.0			0018~CIUTE	N/A
CIUT	5902	INTRO ENGINE MALFUNCTIONS	CIUTE, CIUTD	S	1	D	*					1	1.0			5901	N/A
CIUT	5903	INTRO RUNNING LANDINGS & AUTOS	CIUTE, CIUTD	S	1	D	*					1	1.0			5902	N/A
CIUT	5904	INTRO GEARBOX MALFUNCTIONS	CIUTE, CIUTD	S	1	D	*					1	1.0			5903	N/A
CIUT	5905	INTRO CRM SKILLS	CIUTE, CIUTD	S	1	D	*					1	1.5			5904	N/A
CIUT	5906	PROGRESS CHECK	CIUTE, CIUTD	S	1	D	*					1	1.0			5905	N/A
CIUT	5907	ENG FAILURE / LANDINGS	CIUTE, CIUTD	S	1	D	*					1	1.5			5906	N/A
CIUT	5908	AFCS FAILURE / FAM	CIUTE, CIUTD	S	1	D	*					1	1.5			5907	N/A
CIUT	5909	PRAC FAM	CIUTE, CIUTD	S	1	D	*					1	1.5			5908	N/A
CIUT	5910	REV FAM & EPs	CIUTE, CIUTD	S	1	D	*					1	1.5			5909	N/A
CIUT	5911	NIGHT FAM	CIUTE, CIUTD	S	1	N	*					1	1.5			5910	N/A
TOTAL										**0**	**0.0**	**12**	**15.0**	**0**	**0.0**		

STAGE	EVENT	T&R DESCRIPTION	POI	DEVICE	NUMBER	COND	REFLY	E	TEN+	# OF ACAD	ACAD HOURS	# OF SIM	SIM HOURS	# OF FLTS	FLIGHT HOURS	PREREQUISITE	EVENT CONV
CI SIMULATOR INSTRUMENT STAGE (INST)																	
CIUT	5912	INTRO BASIC INSTRUMENTS	CIUTE, CIUTD	S	1	D	*					**1**	**1.0**			5911	N/A
CIUT	5913	INTRO PARTIAL PANNEL	CIUTE, CIUTD	S	1	D	*					**1**	**1.0**			5912	N/A
CIUT	5914	INTRO ILS/LOCALIZER	CIUTE, CIUTD	S	1	D	*					**1**	**1.0**			5913	N/A
CIUT	5915	INTRO UNUSUAL ATTITUDES	CIUTE, CIUTD	S	1	D	*					**1**	**1.0**			5914	N/A
CIUT	5916	INTRO IFR LOST COMM	CIUTE, CIUTD	S	1	D	*					**1**	**1.0**			5915	N/A
CIUT	5917	BASIC INST, PRE APP	CIUTE, CIUTD	S	1	D	*					**1**	**2.0**			5916	N/A
CIUT	5918	IFR ROUTE	CIUTE, CIUTD	S	1	D	*					**1**	**1.5**			5917	N/A
CIUT	5919	BASIC INST D	CIUTD	S	1	D	*					**1**	**2.0**			5918	N/A
										0	**0.0**	**8**	**10.5**	**0**	**0.0**		
CI SIMULATOR NAVIGATION STAGE (SNAV)																	
CIUT	5920	INTRO FLIGHT PLANNING SOFTWARE, GPS, HNVS	CIUTE, CIUTD	S	1	D	*					1	**1.0**			5919 (IF CIUTD)	N/A
										0	**0.0**	**1**	**1.0**	**0**	**0.0**		
CIUT	5921	INTRO DAY FORM	CIUTE, CIUTD	S	1	D	*					**1**	**1.0**			5920	N/A
										0	**0.0**	**1**	**1.0**	**0**	**0.0**		
CIUT	5922	INTRO CALS	CIUTE, CIUTD	S	1	D	*					1	**1.5**			5921	N/A
										0	**0.0**	**1**	**1.5**	**0**	**0.0**		
CIUT	5923	INTRO SINGLE AND DUAL POINTS	CIUTE, CIUTD	S	1	D	*					**1**	**2.0**			5922	N/A
										0	**0.0**	**1**	**2.0**	**0**	**0.0**		
CIUT	5924	TERF	CIUTE, CIUTD	S	1	D	*					1	**1.0**			5923	N/A
										0	**0.0**	**1**	**1.0**	**0**	**0.0**		
CIUT	5925	REVIEW CIUT	CIUTE, CIUTD	S	1	D	*					1	**2.0**			5900-5924	N/A
CIUT	5926	REVIEW CIUT	CIUTE, CIUTD	S	1	D	*					1	**2.0**			5925	N/A
										0	**0.0**	**2**	**4.0**	**0**	**0.0**		

STAGE	EVENT	T&R DESCRIPTION	POI	DEVICE	NUMBER	COND	REFLY	E	TEN+	# OF ACAD	ACAD HOURS	# OF SIM	SIM HOURS	# OF FLTS	FLIGHT HOURS	PREREQUISITE	EVENT CONV
CIUT	5927	CIUT CHECK	CIUTE, CIUTD	S	1	D	*					1	2.0			5926	N/A
										0	0.0	1	2.0	0	0.0		
TOTAL CONTRACT INSTRUCTOR STAGE										8	98.0	28	38.0	0	0.0		
CONTRACT INSTRUCTOR D FRSID STAGE																	
CIUT	5928	STAN PROCEDURES	CIUTD	S	1	D	*					1	2.0			5927	N/A
CIUT	5929	CAL & EXT INSTRUCTION	CIUTD	S	1	D	*					1	2.0			5928	N/A
CIUT	5930	STAN CHECK	CIUTD	S	1	D	*					1	1.5			5929	N/A
TOTAL CONTRACT INSTRUCTOR FRSID STAGE										0	0.0	3	5.5	0	0.0		
CONTRACT INSTRUCTOR E FRSI STAGE																	
CIUT	5931	IP BRIEF	CIUTE	S	1	D	*					1	1.5			5927	N/A
CIUT	5932	REVIEW FAM MANEUVERS	CIUTE	S	1	D	*					1	1.5			5931	N/A
CIUT	5933	REVIEW BI, AIRWAY NAV	CIUTE	S	1	D	*					1	2.0			5932	N/A
CIUT	5934	REVIEW CAL	CIUTE	S	1	D	*					1	1.5			5933	N/A
CIUT	5935	REVIEW FORM	CIUTE	S	1	D	*					1	1.5			5934	N/A
CIUT	5936	REV EXT OPS	CIUTE	S	1	D	*					1	1.5			5935	N/A
CIUT	5937	STAN CHECK	CIUTE	S	1	D	*					1	1.5			5936	N/A
TOTAL CONTRACT INSTRUCTOR FRSID STAGE										0	0.0	7	11.0	0	0.0		

CH-53D/E T&R MATRIX																	
STAGE	**EVENT #**	**T&R DESCRIPTION**	**POI**	**E**	**DEV**	**# A/C**	**CON**	**TEN+**	**RE FLY**	**# OF ACAD**	**ACAD HRS**	**# OF SIM**	**SIM HRS**	**# OF FLTS**	**FLT HRS**	**PREREQUISITE**	**EVENT CONV**
6000 PHASE - REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, DESIGNATIONS (RQD)																	
ACADEMICS STAGE (ACAD)																	
ACAD	6010	TACTICAL FLIGHT BRIEFING	B		ACAD					1	**1.5**						N/A
ACAD	6011	AMC	B		ACAD					1	**.8**						N/A
TOTAL ACADEMIC STAGE										2	**2.3**						N/A
NATOPS STAGE																	
NATOPS	6000	NATOPS OPEN BOOK EXAM	B,SC,R	E	ACAD				365	1	3.0						N/A
NATOPS	6001	NATOPS CLOSED BOOK EXAM	B,SC,R	E	ACAD				365	1	1.0					6000	N/A
NATOPS	6002	NATOPS ORAL EXAM	B,SC,R	E	ACAD				365	1	2.0					6001	N/A
NATOPS	6004	MONTHLY EP EXAM	B,SC,R	E	ACAD				30	1	1.0						N/A
NATOPS	6100	NATOPS EVALUATION	B,SC,R	E	S/A	1	(N)		365					**1**	**1.5**	6002	600
TOTAL NATOPS STAGE										**4**	**7.0**			**1**	**1.5**		
CREW RESOURCE MANAGEMENT STAGE (CRM)																	
CRM	6003	CRM CLASS	B,R	E	ACAD				365	**1**	**3.0**						N/A
CRM	6101	PRACTICE CRM PRICIPLES	B,R	E	S/A	1	(N)		365					**1**	**1.5**	6003	N/A
TOTAL CRM STAGE										**1**	**3.0**	**0.0**	**0.0**	**1**	**1.5**		
INSTRUMENT STAGE (INST)																	
INST	6005	INSTRUMENT GROUND SCHOOL	B,R	E	ACAD				365	**1**	**4.0**						N/A
INST	6006	WRITTEN INSTRUMENT EXAM	B,R	E	ACAD				365	**1**	**1.0**					6005	N/A
INST	6102	INSTRUMENT EVALUATION	B,R	E	S/A	1			365					1	**1.5**	6006	601
TOTAL INST STAGE										**2**	**5.0**	**0.0**	**0.0**	**1**	**1.5**		
HELICOPTER AIRCRAFT COMMANDER STAGE (HAC)																	
HAC	6120	HAC REVIEW	B		A/S	1	D		*					**1**	**1.5**	CORE & MISSION SKILL PHASE COMP, NSQ-LLL, 450 FLT HRS	610
HAC	6121	NS HAC REVIEW	B		A/S	1	NS		*					**1**	**1.5**	CORE & MISSION SKILL PHASE COMP, NSQ-LLL, 450 FLT HRS	611
HAC	6122	DAY INTO NIGHT HAC EVALUATION	B,R	E	A		(N)		*					**1**	**2.0**	5110,6120,6121,6001	612
TOTAL HAC STAGE										**0**	**0.0**	**0.0**	**0.0**	**3**	**5.0**		
SECTION LEADER STAGE (SL)																	
SL	6200	DAY OR NIGHT CORE SKILL SL REVIEW	B		A/S	2	(NS)	X	*					1	**1.5**	8630,8660,HAC, 3 FLTS AS WINGMAN	620
SL	6201	MCT BASED TACTICAL SCENARIO	B		A/S	2	(NS)	X	*					1	**1.5**	8630,8660,HAC, 3 FLTS AS WINGMAN	621

CH-53D/E T&R MATRIX																
STAGE	**EVENT #**	**T&R DESCRIPTION**	**POI**	**E**	**DEV**	**# A/C**	**CON**	**TEN+**	**RE FLY**	**# OF ACAD**	**ACAD HRS**	**# OF SIM**	**SIM HRS**	**# OF FLTS**	**FLT HRS**	**PREREQUISITE**	**EVENT CONV**
SL	6202	DAY OR NIGHT CORE SKILL SL REVIEW	B		A/S	2	(NS)	X	*					1	**1.5**	8630,8660,HAC, 3 FLTS AS WINGMAN	622
SL	6203	NIGHT SL EVAL W FLSE	B,R	E	A	2	NS		*					1	**1.5**	6200,6201,6202, 50 HAC HRS	628
TOTAL SL STAGE										**0**	**0.0**	**0**	**0.0**	**4**	**6.0**		
DIVISION LEADER STAGE (DL)																	
DL	6300	DAY OR NIGHT CORE SKILL DL REVIEW	B		A/S	3	(NS)	X	*					1	**1.5**	8640,8641,SL, 3 FLIGHTS AS SL,	630
DL	6301	MCT BASED TACTICAL SCENARIO	B	E	A/S	3	(NS)	X	*					1	**1.5**	8640,8641,SL, 3 FLIGHTS AS SL,	631
DL	6302	DL EVALUATION W FLSE	B,R	E	A	3	(NS)		*					1	**1.5**	6300,6301, 600 FLT HRS, 200 HRS IN TYPE, 50 HRS IN MODEL	632
TOTAL DL STAGE										**0**	**0.0**	**0**	**0.0**	**3**	**4.5**		
FLIGHT LEADER STAGE (FL)																	
FL	6400	FLIGHT LEADER EVAL W FLSE	B	E	A	5+	(NS)		*					1	**1.5**	6010,8620,DL, 3 FLIGHTS AS DL, 750 FLT HRS	648
TOTAL FL STAGE										**0**	**0.0**	**0**	**0.0**	**1**	**1.5**		
AIR MISSION COMMANDER STAGE (AMC)																	
AMC	6500	AMC EVAL W FLSE	B	E	A	5+	(NS)		*					1	**1.5**	6011, FLT LD	658
										0	**0.0**	**0**	**0.0**	**1**	**1.5**		
FUNCTIONAL CHECK PILOT STAGE (FCP)																	
FCP	6610	INTRO AFCS (B-CARD)	B	E	S/A	1	D		*			**1**	**1.5**			25 HAC HOURS	N/A
FCP	6611	REVIEW AFCS (B-CARD)	B,SC,R	E	A	1	D		*					1	**1.5**	6610	N/A
FCP	6612	INTRO MECH FLIGHT CONTROL (C-CARD)	B	E	S/A	1	D		*			**1**	**1.5**			25 HAC HOURS	N/A
FCP	6613	REV MECH FLIGHT CONTROL (C-CARD)	B,SC,R	E	A	1	D		*					1	**1.5**	6612	N/A
FCP	6614	INTRO ENGINES (D-CARD)	B	E	S/A	1	D		*			**1**	**1.5**			25 HAC HOURS	N/A
FCP	6615	REV ENGINES (D-CARD)	B,SC,R	E	A	1	D		*					1	**1.5**	6614	N/A
FCP	6616	INTRO A CARD	B,SCE,RE	E	S/A	1	D		*			**1**	**1.5**			6610,6612,6614	N/A
FCP	6617	FCP EVAL	B,SC,R	E	A	1	D		*					1	**1.5**	6610-6616, 50 HAC HOURS AND PER SQUADRON SOPS	602
TOTAL FCP STAGE										**0**	**0.0**	**3**	**4.5**	**3**	**4.5**		

CH-53D/E T&R MATRIX																		
STAGE	TRNG CODE	T&R DESCRIPTION	POI	E	DEVICE	# OF A/C	CON	RE FLY	# OF ACAD	ACAD TIME	# OF SIM	SIM TIME	# OF FLTS	FLT TIME	PREREQUISITE	NOTES	CHAINING	EVENT CONV
AVIATION CAREER PROGRESSION MODEL (ACPM)																		
ACPM	8200	MACCS AGENCIES, FUNCTIONS AND CONTROL OF AIRCRAFT AND MISSLES						*		0.6								
ACPM	8201	MWCS BRIEF						*		0.4								
ACPM	8202	ACA AND AIRSPACE						*		0.5								
ACPM	8210	AVIATION GROUND SUPPORT						*		0.6								
ACPM	8230	ACE BATTLESTAFF						*		0.6								
ACPM	8231	BATTLE COMMAND DISPLAY						*		0.3								
ACPM	8240	SIX FUNCTIONS OF MARINE AVIATION						*		1.3								
ACPM	8241	JTAR/ASR INTRODUCTION AND PRACTICAL APPLICATION CLASS						*		0.5								
ACPM	8242	SITE COMMAND PRIMER						*		0.7								
ACPM	8250	THEATER AIR GROUND SYSTEM (TAGS)						*		0.6								
ACPM	8300	AIR DEFENSE						*		0.6								
ACPM	8310	FORWARD ARMING AND REFUELING POINT (FARP) OPERATIONS						*		0.4								
ACPM	8311	MARINE CORPS TACTICAL FUEL SYSTEMS						*		0.2								
ACPM	8320	JOINT STRUCTURE & JOINT AIR OPERATIONS						*		1.3								
ACPM	8321	JOINT AIR TASKING CYCLE PHASE 1: STRATEGY DEVELOPMENT						*		0.3								
ACPM	8322	JOINT AIR TASKING CYCLE PHASE 2: TARGET DEVELOPMENT						*		0.2								
ACPM	8323	JOINT AIR TASKING CYCLE PHASE 3: WEAPONING AND ALLOCATION						*		0.2								

CH-53D/E T&R MATRIX																	
STAGE	**TRNG CODE**	**T&R DESCRIPTION**	**POI**	**E**	**DEVICE**	**# OF A/C**	**CON**	**RE FLY**	**# OF ACAD**	**ACAD TIME**	**# OF SIM**	**SIM TIME**	**# OF FLTS**	**FLT TIME**	**PREREQUISITE**	**NOTES**	**CHAINING**	**EVENT CONV**
ACPM	8324	JOINT AIR TASKING CYCLE PHASE 4: JOINT ATO PRODUCTION						*		**0.2**								
ACPM	8325	JOINT AIR TASKING CYCLE PHASE 5:						*		**0.2**								
ACPM	8326	JOINT AIR TASKING CYCLE PHASE 6: COMBAT ASSESMENT						*		**0.2**								
ACPM	8340	INTEGRATING FIRES AND AIRSPACE WITHIN THE MAGTF						*		**0.5**								
ACPM	8350	PHASING CONTROL ASHORE						*		**0.5**								
ACPM	8351	TACRON ORGANIZATIONS AND FUNCTIONS						*		**TBD**								
ACPM	8630	TACTICAL AIR COMMAND CENTER (TACC)						*		**0.7**								
ACPM	8660	JOINT OPS INTRO						*		**0.4**								
ACPM	8640	JOINT DATA NETWORK						*		**0.4**								
ACPM	8641	MAGTF THEATER						*		**1.5**								
ACPM	8620	ESG/CSG INTEGRATION						*		**TBD**								
TOTAL ACPM STAGE									23	**13.5**	0	**0.0**	0	**0.0**				

CH-53E T&R ATTAIN/MAINTAIN MATRIX													
T&R DESCRIPTION	T&R EVENT			BASIC POI		SERS CONV "E" POI		REFRESHER POI		MAINTAIN		PREREQUISITE	CHAINING
	STAGE	CODE	*RE FLY*	STAGE	CODE	STAGE	CODE	STAGE	CODE	STAGE	CODE		
CORE SKILLS (2000 PHASE)													
SIM FAM/INST	FAM / INST	2100	*90*		2100				2100			1902	
DAY HUD FAM/CAL	FAM/ INST	2101	*	**FAM / INST**	2101	**FAM / INST**	2101	**FAM / INST**	2101	**FAM / INST**		2100	
FAM/INST	FAM/ INST	2105	*365*		2105				2105		2105	2100	2100
DAY FORM	FORM	2110	*365*	**FORM**	2110	**FORM**		**FORM**	2110	**FORM**	2110	2105	
DAY CAL	CAL	2210	*365*	**CAL**	2210	**CAL**		**CAL**	2210	**CAL**		2105	
DAY SEC CAL	CAL	2211	*365*		2211		2211		2211		2211	2110,2210	2210,2110
DAY TERF	TERF	2310	*365*	**TERF**	2310	**TERF**		**TERF**		**TERF**		2105,2011	
DAY SEC TERF	TERF	2311	*365*		2311		2311		2311		2311	2310,2110	2310,2110
SIM EXT	EXT	2400	*		2400				2400			1902,2101	
SINGLE POINT	EXT	2410	*365*		2410		2410					2210,2014	2210
DUAL POINT	EXT	2411	*365*	**EXT**	2411	**EXT**	2411	**EXT**	2411	**EXT**	2411	2210,2014	2210,2410
HLL SINGLE EXT	EXT	2420	*180*		2420		2420					2220,2410	2410
HLL DUAL EXT	HLL	2421	*180*		2421		2421		2421		2421	2220,2411	2410,2411,2420
HEAVY LIFT	EXT	2441	*365*		2441				2441		2441	2400,2410	2210,2410
SIM GTR & ASE	GTR	2500	*	**GTR**	2500	**GTR**		**GTR**		**GTR**			
GTR & ASE	GTR	2540	*365*		2540				2540		2540	2110,2310,2311,2500	2110,2310,2311
SIM DAY HAAR	HAAR	2600	*		2600		2600						
SIM NS HAAR	HAAR	2601	*		2601		2601						
DAY HAAR LEFT	HAAR	2610	*	**HAAR**	2610	**HAAR**	2610	**HAAR**		**HAAR**		2105,2600	
DAY HAAR L&R	HAAR	2611	*210*		2611		2611		2611			2610	
NS HAAR	HAAR	2640	*210*		2640		2640		2640		2640	2601,2611	2611
SIM FCLP/CQ	CQ	2700	*		2700								
DAY FCLP	FCLP	2710	*365*	**FCLP**	2710	**FCLP**	2710	**FCLP**	2710	**FCLP**		2105,2700	
NS FCLP	FCLP	2742	*365*		2742		2742		2742		2742	2101,2220,2710	2710
DAY AG	AG	2810	*	**AG**	2810	**AG**		**AG**	2810	**AG**		2105	
NIGHT AG	AG	2840	*485*		2840				2840		2840	2810	
LOW THREAT	TAC	2910	*365*	**TAC**	2910	**TAC**		**TAC**		**TAC**		2211	2110,2210,2211
MEDIUM THREAT	TAC	2911	*365*		2911				2911		2911	2910	2110,2210,2211,2910
SIM NS HUD FAM/CAL	HLL	2102	*		2102		2102		2102			2101	
HLL FORM NAV	HLL	2120	*180*		2120				2120			2101,2110	2110
HLL CALS	HLL	2220	*180*		2220							2101,2210	2210
HLL SEC CALS	HLL	2221	*180*	**HLL**	2221	**HLL**	2221	**HLL**	2221	**HLL**	2221	2220	2211,2120,2220
HLL TERF	HLL	2320	*180*		2320							2101,2310	2310,2311
HLL SEC TERF	HLL	2321	*180*		2321		2321		2321		2321	2120,2311,2320	2310,2311,2320
HLL CHECK LOW THREAT	HLL	2920	*365*		2920				2920		2920	2221,2222,2321,2910	2110,2211,2210,2120,2220,2221,2910

CH-53E T&R ATTAIN/MAINTAIN MATRIX													
T&R DESCRIPTION	T&R EVENT			BASIC POI		SERS CONV "E" POI		REFRESHER POI		MAINTAIN		PREREQUISITE	CHAINING
	STAGE	CODE	*RE FLY*	STAGE	CODE	STAGE	CODE	STAGE	CODE	STAGE	CODE		
LLL CALS	LLL	2230	*180*		2230							NSQ HLL,2420,2421	2210,2220
LLL SEC CALS	LLL	2231	*180*		2231		2231		2231		2231	2230	2210,2211,2220,2221,2230
LLL TERF	LLL	2330	*180*		2330							NSQ HLL,2420,2421	2310,2320
LLL SEC TERF	LLL	2331	*180*	**LLL**	2331	**LLL**	2331	**LLL**	2331	**LLL**	2331	2330	2310,2311,2320,2321,2330
LLL EXT	LLL	2430	*180*		2430		2430		2430		2430	2230	2210,2220,2410,2411,2420,2421,2230
LLL CHECK MED THREAT	LLL	2930	*365*		2930				2930		2930	2911,2231,2331	2110,2211,2120,2210,2220,2221,2230,2231,2910,2911,2920
MISSION SKILLS (3000 PHASE)													
EXP SHORE BASED	EXP	3140	365	**EXP**	3240	**EXP**		**EXP**	3240	**EXP**	3240	3001	
ASSAULT TRANSPORT	AT	3240	365	**AT**	3340	**AT**		**AT**	3340	**AT**	3340	3003	
AIR DELIVERY	AD	3340	365	**AD**	3440	**AD**		**AD**	3440	**AD**	3440		
TRAP	TRAP	3440	365	**TRAP**	3640	**TRAP**		**TRAP**	3640	**TRAP**	3640	3004,3005,8202,8641	
AERIAL EVAC	AE	3540	365	**AE**	3740	**AE**		**AE**	3740	**AE**	3740	3002,3006	
CORE PLUS SKILLS (4000 PHASE)													
HELOCAST	HIE	4110	*		4110						4110	2310	2210
FAST ROPE, SPIE, RAP	HIE	4140	*	**HIE**	4140	**HIE**	4140	**HIE**		**HIE**		2210~DAY,NSQ HLL~HLL,NSQ LLL~LLL	2210
PARA OPS	HIE	4141	*		4141							2210~DAY,NSQ HLL~HLL,NSQ LLL~LLL	2210
SIM DAY TERF EXT	TERF EXT	4412	365	TERF EXT	4412	TERF EXT	4412	TERF EXT	4412	TERF EXT		2210,2310,2410,2411	
SIM NIGHT TERF EXT	TERF EXT	4440	365		4440		4440		4440		4440	2320,2420,2421,4412~HLL,2330~LLL,2430~LLL	
GTR & ASE	GTR	4540	365	**GTR**	4540	**GTR**		**GTR**	4540	**GTR**	4540	2311,2500	2110,2310,2311
SEC RW DM	DM	4510	365		4510				4510		4510	2311	2110,2310,2311
SEC FW DM	DM	4511	365		4511				4511		4511	2311,	2110,2310,2311
SIM CBRN	CBRN	4600	*	**CBRN**	4600	**CBRN**		**CBRN**		**CBRN**		2210~DAY,2220~HLL,2230~LLL	
DIV TAC LOW/MED	TAC	4940	365		4940				4940		4940	2911,2920~HLL,2930~LLL	2210,2211,2911,2920~NS,2230~LLL,2231~LLL,2930~LLL
TAC URBAN	TAC	4941	365	**TAC**	4941	**TAC**		**TAC**	4941	**TAC**	4941	2911,2920~HLL,2930~LLL	2110,2111,2210,2211,2220,2221,2910,2911
LONG RANGE L/M	TAC	4942	365		4942				4942		4942	2911,2920~HLL,2930~LLL,2611~DAY HAAR,2640~NS HAAR	2110,2210,2211,2910,2911
DAY CQ	CQ	4711	*365*	**CQ**	4711	**CQ**		**CQ**	4711	**CQ**		2710,2700	2710
NS CQ	CQ	4743	*365*		4743				4743		4743	2742,4711	4711,2742
MISSION PLUS SKILLS (4000 PHASE)													
RAID	RAID	4980	365	**RAID**	4980	**RAID**		**RAID**	4980	**RAID**	4980	2930	
ADGR	ADGR	4981	365	**ADGR**	4981	**ADGR**		**ADGR**	4981	**ADGR**	4981	2930	
EXP SEA-BASED	SEA	4982	365	**SEA**	4982	**SEA**		**SEA**	4982	**SEA**	4982		

CH-53D T&R ATTAIN/MAINTAIN MATRIX													
T&R DESCRIPTION	T&R EVENT			BASIC POI		SERS CONV "D" POI		REFRESHER POI		MAINTAIN		PREREQUISITE	CHAINING
	STAGE	CODE	*RE FLY*	STAGE	CODE	STAGE	CODE	STAGE	CODE	STAGE	CODE		
CORE SKILLS (2000 PHASE)													
SIM FAM/INST	FAM / INST	2100	*90*	FAM / INST	2100	FAM / INST		FAM / INST	2100	FAM / INST	2100	1902	
FAM/INST	FAM/ INST	2105	*365*		2105				2105		2105	2100	2100
DAY FORM	FORM	2110	*365*	FORM	2110	FORM		FORM	2110	FORM	2110	2105	
DAY CAL	CAL	2210	*365*	CAL	2210	CAL		CAL	2210	CAL		2105	
DAY SEC CAL	CAL	2211	*365*		2211		2211		2211		2211	2110,2210	2210,2110
DAY TERF	TERF	2310	*365*	TERF	2310	TERF		TERF		TERF		2105,2011	
DAY SEC TERF	TERF	2311	*365*		2311		2311		2311		2311	2310,2110	2310,2110
SIM EXT	EXT	2400	*	EXT	2400	EXT		EXT	2400	EXT		1902	
SINGLE POINT	EXT	2410	*365*		2410		2410		2410		2410	2210,2014	2210
HLL SINGLE EXT	EXT	2420	*180*		2420		2420		2420			2220,2410	2210,2220,2410
LLL EXT	LLL	2430	*180*		2430		2430		2430		2430	2230	2210,2220,2410,2420,2230
HEAVY LIFT	EXT	2441	*365*		2441				2441		2441	2400,2410	2210,2410
SIM GTR & ASE	GTR	2500	*	GTR	2500	GTR		GTR		GTR			
GTR & ASE	GTR	2540	*365*		2540				2540		2540	2110,2310,2311,2500	2110,2310,2311
SIM CQ	CQ	2700	*	FCLP	2700	FCLP		FCLP		FCLP			
DAY FCLP	FCLP	2710	*365*		2710		2710		2710			2105,2700	
NS FCLP	FCLP	2742	*365*		2742		2742		2742		2742	2101,2220,2710	2710
DAY AG	AG	2810	*	AG	2810	AG		AG	2810	AG		2105	
NIGHT AG	AG	2840	*485*		2840				2840		2840	2810	
LOW THREAT	TAC	2910	*365*	TAC	2910	TAC		TAC		TAC		2211	2110,2210,2211
MEDIUM THREAT	TAC	2911	*365*		2911				2911		2911	2910	2110,2210,2211,2910
SIM NS	HLL	2102	*	HLL	2102	HLL		HLL		HLL			
HLL FORM NAV	HLL	2120	*180*		2120				2120			2101,2110	2110
HLL CALS	HLL	2220	*180*		2220							2101,2210	2210
HLL SEC CALS	HLL	2221	*180*		2221		2221		2221		2221	2220	2211,2220,2120
HLL TERF	HLL	2320	*180*		2320							2101,2310	2310,2311
HLL SEC TERF	HLL	2321	*180*		2321		2321		2321		2321	2120,2311,2320	2310,2311,2320,
HLL CHECK LOW THREAT	HLL	2920	*365*		2920				2920		2920	2221,2222,2321,2910	2110,2211,2210,2120,2220,2221,2910
LLL CALS	LLL	2230	*180*	LLL	2230	LLL		LLL		LLL		NSQ HLL,2420,2421	2210,2220
LLL SEC CALS	LLL	2231	*180*		2231		2231		2231		2231	2230	2210,2211,2220,2221,2230
LLL TERF	LLL	2330	*180*		2330							NSQ HLL,2420,2421	2310,2320
LLL SEC TERF	LLL	2331	*180*		2331		2331		2331		2331	2330	2310,2311,2320,2321,2330,
LLL CHECK MED THREAT	LLL	2930	*365*		2930				2930		2930	2911,2231,2331	2110,2211,2120,2210,2220,2221,2230,2231,2910,2911,2920

CH-53D T&R ATTAIN/MAINTAIN MATRIX													
T&R DESCRIPTION	T&R EVENT			BASIC POI		SERS CONV "D" POI		REFRESHER POI		MAINTAIN		PREREQUISITE	CHAINING
	STAGE	CODE	*RE FLY*	STAGE	CODE	STAGE	CODE	STAGE	CODE	STAGE	CODE		
MISSION SKILLS (3000 PHASE)													
EXP SHORE BASED	EXP	3140	365	**EXP**	3240			**EXP**	3240	**EXP**	3240	3001	
ASSAULT TRANSPORT	AT	3240	365	**AT**	3340			**AT**	3340	**AT**	3340	3003	
AIR DELIVERY	AD	3340	365	**AD**	3440			**AD**	3440	**AD**	3440		
TRAP	TRAP	3440	365	**TRAP**	3640			**TRAP**	3640	**TRAP**	3640	3004,3005,8202,8641	
AERIAL EVAC	AE	3540	365	**AE**	3740			**AE**	3740	**AE**	3740	3002,3006	
CORE PLUS SKILLS (4000 PHASE)													
HELOCAST	HIE	4110	*	**HIE**	4110	**HIE**		**HIE**		**HIE**		2310	2210
FAST ROPE, SPIE, RAP	HIE	4140	*		4140		4140		4140		4140	2210~DAY,NSQ HLL~HLL,NSQ LLL~LLL	2210
PARA OPS	HIE	4141	*		4141							2210~DAY,NSQ HLL~HLL,NSQ LLL~LLL	2210
SIM DAY TERF EXT	TERF EXT	4412	365	TERF EXT	4412	TERF EXT	4412	TERF EXT	4412	TERF EXT		2210,2310,2410,2411	
SIM NIGHT TERF EXT	TERF EXT	4440	365		4440		4440		4440		4440	2210,2120,2310,2320,2410,2412,2420	
GTR & ASE	GTR	4540	365	**GTR**	4540	**GTR**		**GTR**	4540	**GTR**	4540	2311,2500	2110,2310,2311
SEC RW DM	DM	4510	365	DM	4510	DM		DM	4510	DM	4510	2311,4500	2110,2310,2311
SEC FW DM	DM	4511	365		4511				4511		4511	2311,4501	2110,2310,2311
SIM CBRN	CBRN	4600	*	**CBRN**	4600	**CBRN**		**CBRN**	4600	**CBRN**	4600	2210~DAY,2220~HLL,2230~LLL	
DIV TAC LOW/MED	TAC	4940	365	**TAC**	4940	**TAC**		**TAC**	4940	**TAC**	4940	2911,2920~HLL,2930~LLL	2210,2211,2911,2920~NS,2230~LLL,2231~LLL,2930~LLL
TAC URBAN	TAC	4941	365		4941				4941		4941	2911,2920~HLL,2930~LLL	2110,2210,2211,2220,2221,2910,2911
LONG RANGE L/M	TAC	4942	365		4942				4942		4942	2911,2920~HLL,2930~LLL,2611~DAY HAAR,2640~NS HAAR	2110,2210,2211,2910,2911
DAY CQ	CQ	4711	*365*	**CQ**	4711	**CQ**		**CQ**	4711	**CQ**		2710,2700	2710
NS CQ	CQ	4743	*365*		4743				4743		4743	2742,4711	4711,2742
MISSION PLUS SKILLS (4000 PHASE)													
RAID	RAID	4980	365	**RAID**	4980			**RAID**	4980	**RAID**	4980	2930	
ADGR	ADGR	4981	365	**ADGR**	4981			**ADGR**	4981	**ADGR**	4981	2930	
EXP SEA-BASED	SEA	4982	365	**SEA**	4982				4982		4982		

217. SIMULATOR MISSION ESSENTIAL SUBSYSTEMS MATRIX (MESM)

1. Events designated by an “S” for “S/A” in the event header shall be flown/conducted in a training device equipped to meet the objectives listed in the event description; each event requires specific simulator capabilities. For each individual event, a simulator is categorized as Full Mission Capable (FMC), Partial Mission Capable (PMC), or Non-Mission Capable (NMC) based on the status of mission essential simulator subsystems. The following definitions apply:

a. FMC. All simulator subsystems required to meet the training objectives for the event to be flown/conducted are installed and operating properly.

b. PMC. A simulator subsystem or capability considered highly desirable, but not essential, in meeting the training objectives is not installed or is not operating properly. While the event can still be completed, the quality of training is degraded.

c. NMC. The device lacks the capability to complete the event due to a critical subsystem or capability being inoperative or not installed. A simulator will be considered NMC if its configuration is greater than 3 months out of date as compared with the current aircraft/system configuration.

2. Completion of an event in a PMC simulator shall be noted on the ATF with a description of the impact to training. Commanding Officers shall be notified of all scheduled events in NMC simulators. Each commanding officer should notify DC/Aviation APW-71/APC [Info CG TECOM ATB and PMA-205 (MARFED)] by AMHS message (via the applicable chain of command) when NMC simulators due to aircraft configuration changes occur for greater than six months or when, in the Commanding Officer’s judgment, the NMC rate has had an adverse effect on the squadron’s ability to train.

3. Simulator MESM Application. The matrix below illustrates how the absence of a particular simulator subsystem or capability affects simulator MC status for each training event in this manual. All simulator events will be completed in a FMC or PMC simulator as determined by the MESM. Completion of an event in a PMC simulator shall be noted on the ATF with a description of the impact to training. Under no circumstances will an event be completed in a device determined to be NMC for that event without the approval of the Commanding Officer.

4. Simulator event briefs shall be identical, both procedurally and in content, to aircraft/system event briefs. The length of the brief should be based upon the mission to be flown/conducted and content to be covered, and should not be forced to fit into the standard simulator briefing period.

5. If the simulator is not available, simulator periods may be flown in the aircraft or conducted on the system.

6. Scheduling. The time between a simulator event and the corresponding aircraft/system event should be minimized to the maximum extent possible.

CH-53 SIMULATOR MISSION ESSENTIAL SUBSYSTEM MATRIX (MESM)		
APT/FTD/CFTD		
Failed Sub-System	**NMC for:**	**PMC for:**
*AFCS Functions (DSEN, BIAS, COORD, SAS, HVR, BANK, TRIM, ATT, ALT, HDG, A/S)	1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1400, 1301, 1302, 1303, 1304, 1117, 1305, 1307, 1306, 1600, 1700, 1900, 2100, 2101, 2500, 2600, 2700, 5502, 5800, 6100 6101, 6114, 6120, 6200, 6201, 6202, 6300, 6301, 6302	
AFCS Panel	1100, 1101, 1105, 1700, 1900, 6114	1102, 1103, 1106, 2100, 6100 6101
AFCS Servos	1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1400, 1305, 1301, 1302, 1303, 1304, 1117, 1306, 1307, 1600, 1700, 1800, 1900, 2100, 2101, 2500, 2600, 2700, 6100, 6101, 6114, 6120, 6200, 5502, 5800, 6201, 6202, 6300, 6301, 6302	
Aircraft Survivability Equipment	2500,4500,4501, any mission skill event	6200, 6201, 6202, 6300, 6301, 6302
Any Flight Control	1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1400, 1305, 1301, 1302, 1303, 1304, 1117, 1306, 1307, 1600, 1700, 1800, 1900,2100, 2101, 2500, 2600, 2700, 6100, 6101, 6114, 6120, 6200, 5123, 5170, 6201, 6202, 6300, 6301, 6302	
*Aural	1103, 2500	1106, 6200, 6201, 6202, 6300, 6301, 6302
Blade/Pylon Fold Switches	1102, 2700	
C-130 Moving Model	2600, 2601	6200, 6201, 6202, 6300, 6301, 6302
CDI	1400, 1301, 1302, 1305, 1306, 1307, 2700, 5123, 6114	2100
Caution/Advisory Panel	1100, 1101, 1102, 1103, 1104, 1105, 1107, 1302, 1303, 1900, 2100, 2101, 2700, 6100, 6101, 6114, 6120, 6200, 6201, 6202, 6300, 6301, 6302	1106
Cockpit Lighting	1107, 1600, 2101, 5170, 6201, 6302	2100, 6200, 6202, 6300, 6301
COMM/ICS	1105, 1107, 1304, 1117, 1600 ,2101, 5170, 6200, 6201, 6202, 6300, 6301, 6302	2101, 2500, 6100, 6101
Copilot Basic Flight Instruments (BDHI, BARALT, Att Gyro, VSI)	1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1400, 1305, 1301, 1302, 1303, 1304, 1117, 1306, 1307,1600, 1700, 1800, 1900, 6120, 6200, 6201, 6202, 6300, 6301, 6302	6120
Copilot Radar Altimeter	1100, 1101, 1400, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1700, 1800, 1900, 2100	1102, 1103, 1104, 1105, 1106, 1107, 6120, 6200, 6201
Debrief Station		Any event
Engine Controls	1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1400, 1301, 1302, 1303, 1304, 1117, 1305, 1306, 1307, 1600, 1700, 1800,1900,	Any 100 level SFAM event.

	2100, 2101, 2500, 2600, 2700, 5123, 5170, 6100, 6101, 6114, 6120, 6200, 6201, 6202, 6300, 6301, 6302	
Engine Instruments (Oil temp, Ng, Nf/Nr, T5, Tq)	1100 ,1101, 1102, 1103, 1104, 1302, 1303, 1304, 1700, 1800, 1900, 2100, 2101, 2700, 6100, 6101, 6114, 6120	1105, 1106, 1107, 1400, 1301, 1117, 1305, 1306, 1307, 1600 6200, 6201, 6202, 6300, 6301, 6302
External Cargo Control Panel	1700	6200, 6201, 6202, 6300, 6301, 6302
*External Cargo IOS Controls	1700	6200, 6201, 6202, 6300, 6301, 6302
*External Load Trainer (EAC)		1700, 6200, 6201, 6202, 6300, 6301, 6302
Fire Warning System Components	1100, 1101, 1102, 1302, 1303, 1900, 2100, 2101, 2700, 6100, 6101, 6114, 6120, 6200, 6201, 6202, 6300, 6301, 6302	1103, 1104, 1105, 1106, 1107
*FLIR Symbology	1600 2101,	1107, 2100, 2700, 6200, 6201, 6202, 6300, 6301, 6302
*FLIR Image	1600 2101,	1107, 2100, 2700, 6200, 6201, 6202, 6300, 6301, 6302
*Fuel Flow Gauges	1100, 1101, 1102, 1302, 1303, 1304, 1900, 6100, 6101, 6114, 6120, 6200, 6201, 6202, 6300, 6301, 6302	1103, 1104, 1105, 1106, 1107, 2100, 2101, 2700
Fuel Quantity Gauges	1100, 1101, 1102, 1700, 2600, 6120, 6200, 6201, 6202, 6300, 6301, 6302	1103, 1104, 1105, 1106, 1107, 6100, 6101, 6114
GPS	1105	6120, 6200, 6201, 6202, 6300, 6301, 6302
*HF Radio	1304	
*HUD (Day/Night)	1600 2101, 5170, 1600	1107, 2100, 2601, 2700, 6200, 6201, 6202, 6300, 6301, 6302
Hydraulic Pressure/Quantity Gauges	1100, 1101, 1104, 1105, 1302, 1303,1900, 2100, 2101, 2700, 6100, 6101, 6114, 6120, 6200, 6201, 6202, 6300, 6301, 6302	1102, 1103, 1106, 1107
*ILS/LOC	1302, 1307, , 5123, 6101, 6114	2100, 6201
*IMDS	1700, 1800, 6114	
Instructor Operator Sta.	Any event	
Landing Gear Handle and/or Indicator	1100, 1101, 6000, 6002, 6120	1102, 1103, 1104, 1105, 1106, 1107, 1302, 1303, 2100, 2101, 6101
Leadship External Lighting	1117, 6200, 6201, 6202, 6300, 6301, 6302	
Leadship/Demo, Record Playback	1117	
Miscellaneous Cockpit Switches (not otherwise delineated)	6114	1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1117, 6100, 6101
Network Capability	1117, 6200, 6201, 6202, 6300, 6301, 6302	

NVG Visual	1107, 1600, 2101, 2601,6201, 6302, 5800	2100, 6200, 6202, 6300, 6301
Other Designated by COR	As designated	As designated
Overall Device	All events	
Ownship Moving Model	1117, 6200, 6201, 6202, 6300, 6301, 6302	
Pilot Basic Flight Instruments (BDHI, BARALT, Att Gyro, VSI)	2100, 2101, 2500, 2600, 2700, 5502, 5800, 6100 6101, 6114 6102, 6200, 6201, 6202, 6300, 6301, 6302	
Pilot Radar Altimeter	2100, 2700, 6114, 5123	2500, 6120, 6201
Refueling Control Panel Switches/Functionality	1100, 1101, 1900, 2600, 6100, 6114, 6120, 6200, 6201, 6202, 6300, 6301, 6302	1102, 1103, 1104, 1105, 1106, 6101
Ship Moving Model	2700	6200, 6201, 6202, 6300, 6301, 6302
TACAN	1400, 1305, 1301, 1302, 1306, 2600, 2700, 5502, 6101, 6114	2100, 6201
Tactical Environment	1117, 2500, 2600, 2700, 6200, 6201, 6202, 6300, 6301, 6302, any event requiring the TEN	6120
Transmission Pressure/Temp Gauges	1100, 1101, 1104, 1302, 1303, 1900, 2100, 2101, 2700, 6100, 6103, 6114, 6120, 6200, 6201, 6202, 6300, 6301, 6302	1102, 1103, 1105, 1106, 1107
Visual	1101, 1102, 1103, 1104, 1105, 1106, 1107, 1117, 1600, 1700, 1800, 1900, 2100, 2101, 2500, 2600, 2601, 2700, 5170, 6100, 6103, 6114, 6120, 6200, 6201, 6202, 6300, 6301, 6302, any mission skill event	1100, 1400, 1301, 1302, 1303, 1305, 1306, 1307, 5502
VOR or ADF	1301, 1302, 1306, 5502, 6103	2100, 6114, 6201
*Does not apply to CH-53D		

218. AIRCREW ACADEMIC/GROUND TRAINING APR TRACKER

AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET				
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING				
NAME (Last, first, middle initial)		Last 4 SSN		
T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	FRS ACADEMIC PHASE (0000)	DD/MM/YY	NAME OR SELF PACED	NAME
CBT-0001	INTRO TO THE CH-53			
CBT-0002	THE AUXILLARY POWER PLANT			
CBT-0003	THE ELECTRICAL SYSTEM			
CBT-0004	HYDRAULIC SYSTEM			
CBT-0005	FUEL SYSTEM			
CBT-0006	ENGINES			
CBT-0007	DRIVE TRAIN			
CBT-0008	CHIP DETECTING SYSTEM			
CBT-0009	ROTOR SYSTEM			
CBT-0010	FLIGHT CONTROL SYSTEM			
CBT-0011	AUTOMATED FLIGHT CONTROL SYSTEM (AFCS)			
CBT-0012	BLADE/PYLON FOLD AND ROTOR BRAKE SYSTEM			
CBT-0013	LANDING GEAR AND WHEEL BRAKE SYSTEM			
CBT-0014	MISCELLANEOUS SYSTEM			
CBT-0015	COMMUNICATION AND NAVIGATION SYSTEMS			
CBT-0016	AIRCRAFT SURVIVABILITY EQUIPTMENT			
CBT-0017	PREFLIGHT PLANNING AND PROCEDURES			
CBT-0018	INTRODUCTION TO THE FLIGHT PHASE			
CBT-0019	NIGHT FLIGHT			
CBT-0020	INSTRUMENT FLIGHT AND NAVIGATION			
CBT-0021	VFR NAVIGATION, GPS AND HELICOPTER NIGHT VISION SYSTEMS (HNVS)			
CBT-0022	FORMATION FLIGHT			
CBT-0023	CONFINED AREA LANDINGS			
CBT-0024	EXTERNAL CARGO OPERATIONS			
ACAD-0100	GROUND SCHOOL INTRO IN-BRIEF			
ACAD-0101	ELECTRICAL SYSTEM			
ACAD-0102	HYDRAULIC SYSTEM			
ACAD-0103	FUEL SYSTEM			
ACAD-0104	ENGINES AND THE AUXILLARY POWER PLANT			
ACAD-0105	DRIVE TRAIN AND ROTOR SYSTEM			

AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET	
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING	
NAME (Last, first, middle initial)	Last 4 SSN

T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	FRS E ACADEMIC PHASE (0000)	DD/MM/YY	NAME OR SELF PACED	NAME
ACAD-0106	FLIGHT CONTROL SYSTEM			
ACAD-0107	AUTOMATED FLIGHT CONTROL SYSTEM (AFCS)			
ACAD-0108	COMMUNICATION AND NAVIGATION SYSTEMS			
ACAD-0109	CREW RESOURCE MANAGEMENT (CRM) INITIAL			
LAB-0110	INTRODUCE PREFLIGHT INSPECTION PROCEDURES			
LAB-0111	PRACTICE PREFLIGHT INSPECTION PROCEDURES			
LAB-0112	REVIEW PREFLIGHT INSPECTION PROCEDURES (PRIOR TO FIRST FAM)			
	MAG-24 STANDARDIZATION DEPARMENT (0200)			
ACAD-0200	WELCOME ABOARD			
ACAD-0201	CH-53D CBT’S (POI COURSEWARE COMPLETE)			
ACAD-0202	COURSE RULES BRIEF			
ACAD-0203	COURSE RULES TEST			
ACAD-0204	EP TEST			
ACAD-0205	LIMITS TEST			
ACAD-0206	OPEN BOOK NATOPS EXAM			
ACAD-0207	CLOSED BOOK NATOPS EXAM			
LAB-0110	INTRODUCE PREFLIGHT INSPECTION PROCEDURES			
LAB-0111	PRACTICE PREFLIGHT INSPECTION PROCEDURES			
LAB-0112	REVIEW PREFLIGHT INSPECTION PROCEDURES(PRIOR TO FIRST FAM)			
	ADDITIONAL FRS ACADEMIC/GROUND CLASSES			

AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET

SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING

NAME (Last, first, middle initial)	**Last 4 SSN**

T&R CODE	**ACADEMIC SYLLABUS**	**DATE**	**INSTRUCTOR**	**ENTERED BY**
	ADDITIONAL FRS PHASE ACADEMIC/GROUND CLASSES (0000)	**DD/MM/YY**	**NAME OR SELF PACED**	**NAME**

SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING	
NAME (Last, first, middle initial)	**Last 4 SSN**

T&R CODE	ACADEMIC SYLLABUS CORE SKILL PHASE (2000)	DATE DD/MM/YY	INSTRUCTOR NAME OR SELF PACED	ENTERED BY NAME
ACAD-2000	(U) CH-53 GPS (FAM STAGE)			
ACAD-2001	(U) ARC-210/HAVEQUICK/SINCGARS(*)			
ACAD-2002	(U) AN/AYK-28			
ACAD-2003	(U) CH-53 INTERNAL CARGO OPERATIONS			
ACAD-2004	(S) CH-53 AAR/ALE-47 (*)			
ACAD-2005	(U) CH-53 TACFORM			
ACAD-2006	(U) CH-53 PFPS TECHNIQUES			
ACAD-2007	(U) DESERT OPERATIONS(*)			
ACAD-2008	(U) MOUNTAIN OPERATIONS(*) (CAL **STAGE**)			
ACAD-2009	(U) COMBAT AIRCREW COORDINATION			
ACAD-2010	(U) HUD			
ACAD-2011	(U) ASD TERRAIN FLIGHT (TERF STAGE)			
ACAD-2012	(S) CH-53 APR-39 (*)			
ACAD-2013	(S) SURFACE TO AIR THREAT TO THE MAGTF			
ACAD-2014	(U) HEAVY LIFT OPERATIONS(*) (EXT STAGE)			
ACAD-2015	(U) ASSAULT SUPPORT TO ARTILLERY			
ACAD-2016	(U) CH-53 DM/GTR I (GTR STAGE)			
ACAD-2017	(S) IR SAM THREAT TO ASSAULT SUPPORT(*)			
ACAD-2018	(S) CH-53 ALQ-157(*)			
ACAD-2019	(S) AAQ-24(*)			
ACAD-2020	(S) AAA THREAT TO ASSAULT SUPPORT			
ACAD-2021	(S) EVASIVE MANEUVERS			
ACAD-2022	(U) HAAR(*) (HAAR STAGE)			
ACAD-2023	(U) CH-53 WEAPONS SYSTEMS AND TRAINING (AG STAGE)			
ACAD-2024	(U) WEAPONS EMPLOYMENT TECHNIQUES			
ACAD-2025	(U) INTRO TO LASER SYSTEMS AND SAFETY			
ACAD-2026	(U) MAGTF FSCMS(*) (MARINE NET CLASS)			
ACAD-2027	(U) OBJECTIVE AREA PLANNING(*) (TAC STAGE)			
ACAD-2028	(U) ROE			
ACAD-2029	(U) EXECUTION CHECKLIST			
ACAD-2030	(U) MISSION ANALYSIS(*)			
ACAD-2031	(U) ASSAULT NVG PREFLIGHT AND ADJUSTMENT			
ACAD-2032	(U) NVG SYSTEMS AND IMAGE CHARACTERISTICS			
ACAD-2033	(U) THE NIGHT ENVIRONMENT (HLL STAGE)			
ACAD-2034	(U) MISPERCEPTIONS AND ILLUSIONS			
ACAD-2035	(U) NIGHT ROUTE PLANNING CONSIDERATIONS			
ACAD-2036	(U) NIGHT OPERATIONS AND PLANNING AIDS			

ACAD-2037	(U) HUMAN FACTORS			
ACAD-2038	(U) FLIR TRAINING COURSE			
ACAD-2039	(U) CH-53 HNVS FLIR (LLL STAGE)			
ACAD-2040	(U) ASSAULT SUPPORT ESCORT TACTICS			
ACAD-2041	(U) BATTLEFIELD ILLUMINATION AND FW ITG			

* Denotes annual academic training requirements.

AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET	
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING	
NAME (Last, first, middle initial)	Last 4 SSN

T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	MISSION SKILL PHASE (3000)	DD/MM/YY	NAME OR SELF PACED	NAME
ACAD-3000	(U) RAPID RESPONSE PLANNING (EXP STAGE)			
ACAD-3001	(S) REC THREAT TO THE MAGTF (EXP STAGE)			
ACAD-3002	(U) NEO EXECUTION (AT STAGE)			
ACAD-3003	(S) INTELLIGENCE PREPARATION OF THE BATTLE SPACE			
ACAD-3004	(S) PERSONNEL RECOVERY (TRAP STAGE)			
ACAD-3005	(S) CH-53 SPECIFIC TRAP TTPS			
ACAD-3006	(U) CASEVAC (AE STAGE)			
ACAD-3007	(U) CIRCADIAN RHYTHM AND FATIGUE			
ACAD-3008	(U) INTRO TO NVG TACTICAL ENVIRONMENT			
	CORE PLUS SKILL PHASE (4000)			
ACAD-4000	(S) RF SAM (GTR STAGE)			
ACAD-4001	(U) DM GAME PLANNING			
ACAD-4002	(U) CH-53 DM/GTR II (DM STAGE)			
ACAD-4003	(S) HELICOPTER PS AND EM			
ACAD-4004	(S) FW Threat to Assault Support			
ACAD-4005	(S) RW Threat to Assault Support			
ACAD-4006	(U) RGR (TAC STAGE)			
ACAD-4007	(S) MOUT			
ACAD-4008	(U) JCAS (RAID STAGE)			
ACAD-4009	(U) GCE RAID PLANNING			
ACAD-4010	(U) MAGTF TARGETING AND FIRE SUPPORT PLANNING			
ACAD-4011	(U) TBFDS/MK-105 (ADGR STAGE)			
	INSTRUCTOR TRAINING PHASE (5000)			
ACAD-5000	(U) INSTRUCTIONAL TECHNIQUES			
	FLIGHT LEADERSHIP TRAINING PHASE (6000)			
ACAD-6000	(U) TACTICAL FLIGHT BRIEFING			
ACAD-6001	(U) AMC			

* Denotes annual academic training requirements.

AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET	
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING	
NAME (Last, first, middle initial)	Last 4 SSN

T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	AVIATION CAREER PROGRESSION MODEL PHASE (8000)	DD/MM/YY	NAME OR SELF PACED	NAME
	CORE SKILL PHASE			
ACPM-8200	(U) MACCS AGENCIES, FUNCTIONS, AND CONTROL OF AIRCRAFT AND MISSILES			
ACPM-8201	(U) MWCS BRIEF			
ACPM-8202	(U) ACA AND AIRSPACE			
ACPM-8210	(U) AVIATION GROUND SUPPORT			
ACPM-8230	(U) ACE BATTLESTAFF			
ACPM-8231	(U) BATTLE COMMAND DISPLAY			
ACPM-8240	(U) SIX FUNCTIONS OF MARINE AVIATION(*)			
ACPM-8241	(U) JTAR/ASR INTRODUCTION AND PRACTICAL APPLICATION			
ACPM-8242	(U) SITE COMMAND PRIMER			
ACPM-8250	(U) THEATER AIR GROUND SYSTEM (TAGS)			
	MISSION SKILL PHASE			
ACPM-8300	(U) AIR DEFENSE			
ACPM-8310	(U) FORWARD ARMING AND REFUELING POINT (FARP) OPERATIONS			
ACPM-8311	(U) MARINE CORPS TACTICAL FUEL SYSTEMS			
ACPM-8320	(U) JOINT STRUCTURE AND JOINT AIR OPERATIONS			
ACPM-8321	(U) JOINT AIR TASKING CYCLE PHASE 1: STRATEGY DEVELOPMENT			
ACPM-8322	(U) JOINT AIR TASKING CYCLE PHASE 2: TARGET DEVELOPMENT			
ACPM-8323	(U) JOINT AIR TASKING CYCLE PHASE 3: WEAPONEERING AND ALLOCATION			
ACPM-8324	(U) JOINT AIR TASKING CYCLE PHASE 4: JOINT ATO PRODUCTION			
ACPM-8325	(U) JOINT AIR TASKING CYCLE PHASE 5: FORCE EXECUTION			
ACPM-8326	(U) JOINT AIR TASKING CYCLE PHASE 6: COMBAT ASSESSMENT			
ACPM-8340	(U) INTEGRATING FIRES AND AIRSPACE WITHIN THE MAGTF			
ACPM-8350	(U) PHASING CONTROL ASHORE			
ACPM-8351	(U) TACRON ORGANIZATIONS AND FUNCTIONS			
	SECTION LEAD SYLLABUS			
ACPM-8630	(U) TACTICAL AIR COMMAND CENTER (TACC)			
ACPM-8660	(U) JOINT OPERATIONS INTRODUCTION			

* Denotes annual academic training requirements.

AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET				
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING				
NAME (Last, first, middle initial)		Last 4 SSN		
T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	AVIATION CAREER PROGRESSION MODEL PHASE (8000)	DD/MM/YY	NAME OR SELF PACED	NAME
DIVISION LEAD SYLLABUS				
ACPM-8640	(U) JOINT DATA NETWORK			
ACPM-8641	(U) MAGTF THEATER AND NATIONAL ISR EMPLOYMENT			
FLIGHT LEAD SYLLABUS				
ACPM-8620	(U) ESG/CSG INTEGRATION			

* Denotes annual academic training requirements.

AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET	
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING	
NAME (Last, first, middle initial)	Last 4 SSN

T&R CODE	ACADEMIC SYLLABUS ADDITIONAL PHASE ACADEMIC/GROUND CLASSES (2000-8000)	DATE DD/MM/YY	INSTRUCTOR NAME OR SELF PACED	ENTERED BY NAME

219. SYLLABUS EVALUATION FORM

CH-53 AIRCREW TRAINING FORM

ALL FLIGHTS	Q	U	DND	N/A
PREPARATION				
WEIGHT & POWER				
SYSTEMS KNOWLEDGE				
PRE/POST FLIGHT				
COCKPIT PROCEDURES				
HEADWORK				
RADIO PROCEDURES				
COURSE RULES				
BASIC AIRWORK				
EMERG. PROCEDURES				
FAMS	**Q**	**U**	**DND**	**N/A**
TAXI				
LOW WORK				
NORMAL APPROACH				
PRECISION APPRCH				
NO HOVER LANDING				
RUNNING T/O / LAND				
PRACTICE AUTO				
ENGINE OUT				
AFCS/ SERVOS OFF				
INSTRUMENT	**Q**	**U**	**DND**	**N/A**
INST. CHECKLIST				
INST. TAKEOFF				
I. I. AIRWORK				
UNUSUAL ATTITUDE				
SID				
PARTIAL PANEL				
ATC PROCEDURES				
DD-175/ICAO				
PRECISION APPROACH				
NON PRECISION APPROACH				
MISSED APPROACH				
ENROUTE NAV				
AERIAL GUNNERY	**Q**	**U**	**DND**	**N/A**
WEAPONS KNOWLEDGE				
VOICE COMMANDS				
FORMATION	**Q**	**U**	**DND**	**N/A**
PARADE				
COMBAT CRUISE				
COMBAT SPREAD				
CROSSOVERS				
LEAD CHANGE				
TACFORM MANEUVERS				
SECTION LANDINGS				
NS FORM				
TERF/NAVIGATION	**Q**	**U**	**DND**	**N/A**
ROUTE PLANNING				
MAP PREPARATION				
FUEL PLANNING				
TIME DIST CHECKS				
NAV SYSTEMS				
IN-FLIGHT ORIENT				
MAP INTERPRETATION				
TERF/ AC AWARENESS				
LOW LEVEL/CONTOUR				
MASKING/UNMASKING				
BUNT				
ROLL				
TERF TURN				
TERF QUICK STOP				
NBC	**Q**	**U**	**DND**	**N/A**
NBC ADAPTATION				

EXTERNALS	Q	U	DND	N/A
HOOK/PENDANT PREFLIGHT				
OP POWER CHECKS				
PRECISION HOVER				
PICK-UP				
PATTERN				
DELIVERY				
DEF MANEUVERING	**Q**	**U**	**DND**	**N/A**
THREAT ANALYSIS				
EVASIVE ACTIONS				
ASE UTILIZATION				
AERIAL REFUELING	**Q**	**U**	**DND**	**N/A**
-COMM/EMCON PROCEDURES				
-JOIN-UP/RENDEZVOUS				
-PRECONTACT				
-CONTACT				
-REFUEL				
-DISCONNECT				
CQ	**Q**	**U**	**DND**	**N/A**
- SHIPBOARD PROCEDURES				
- PATTERN				
- APPROACH				
- MARSHALL PROCEDURES				
- LANDING				
- TRANS TO FWD FLIGHT				
TACTICS/MISSION SKILLS	**Q**	**U**	**DND**	**N/A**
- MISSION PLANNING				
- MISSION BRIEFING				
- MISSION EXECUTION				
- ACTIONS IN OBJ AREA				
- LOGISTICS				
GROUND THREAT REACTION	**Q**	**U**	**DND**	**N/A**
THREAT CONSIDERATIONS				
EVASIVE ACTIONS				
EXPENDABLE EMPLOYMENT				
ASE PROCEDURES				
COMM PROCEDURES				
LOOKOUT DOCTRINE				
ADVERSARY RECOGNITION				
MUTUAL SUPPORT				
FLIGHT MANAGEMENT				
HELO INSERTION/EXTRACTION	**Q**	**U**	**DND**	**N/A**
-AERIAL DELIVERY				
-FAST ROPE				
-RAPPELING				
-HELOCASTING				
CALS	**Q**	**U**	**DND**	**N/A**
- LZ BRIEF				
TAKEOFF				
- PATTERN				
- APPROACH				
- LANDING				
TACTICAL APPROACH				
CREW COORDINATION	**Q**	**U**	**DND**	**N/A**
DECISION MAKING				
ASSERTIVENESS				
- MISSION ANALYSIS				
COMMUNICATION				
LEADERSHIP				
ADAPTABILITY/ FLEXIBILITY				
SITUATIONAL AWARENESS				
CREW COMFORT				

PLANNING/PREPARATION:

BRIEF:

EXECUTION:
LOCATION:
WEATHER:
LIGHT LEVEL:
FLIGHT:

DEBRIEF:

STRENGTHS:

WEAKNESSES:

RECOMMENDATIONS:

SIGNATURE:			
DATE OF FLIGHT		**FLIGHT TIME**	
LANDINGS		**NAVFLIR #**	
INSTRUCTOR		**STUDENT**	
TRAINING CODE			

Q: PUI met or exceeded performance standards.
U: PUT did not meet performance standards.
DND: Skill required for event completion, but was not completed
N/A: Skill not applicable to this event

CHAPTER 3

CH-53 CREW CHIEF (MOS 6173)

CH-53 AERIAL OBSERVER (MOS 6199)

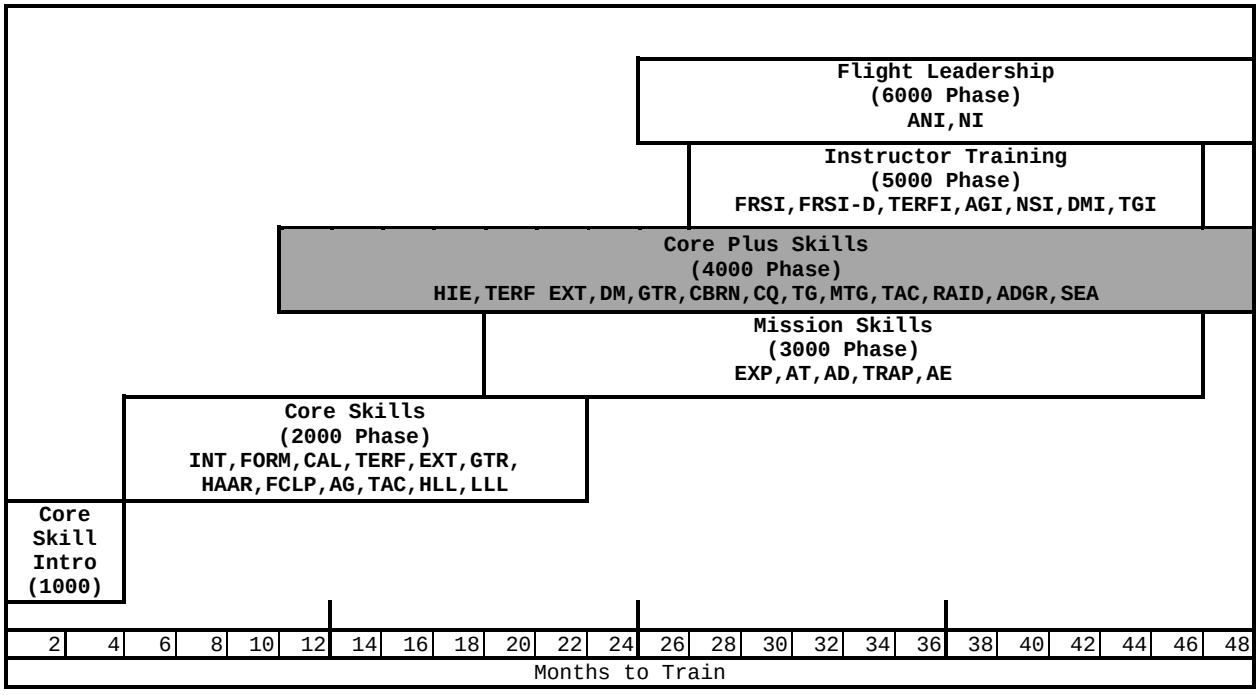
CHAPTER 3

CH-53 CREW CHIEF (MOS 6173)

CH-53 AERIAL OBSERVER (MOS 6199)

300. CREWCHIEF/AERIAL OBSERVER INDIVIDUAL TRAINING AND READINESS REQUIREMENTS. This T&R Syllabus is based on specific goals and performance standards designed to ensure individual proficiency in Core Skills, and Mission Skills, and Core Plus Skills. The goal of this chapter is to develop individual and unit war fighting capabilities.

301. CREWCHIEF 6173 TRAINING PROGRESSION MODEL. This model represents the recommended training progression for the average 6173 crewmember. Units should use the model as a point of departure to generate individual training plans.



302. INDIVIDUAL CORE SKILL PROFICIENCY (CSP) REQUIREMENTS. A CSP crew consists of individuals representing each crew position who have achieved and currently maintain individual CSP. In order to be considered proficient in a Core Skill, an individual must attain and maintain proficiency in Core Skill events as delineated in the below paragraphs.

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 2000 phase T&R events listed for that Core Skill:

CH-53E CREWCHIEF / AERIAL OBSERVER INDIVIDUAL CORE SKILL PROFICIENCY (CSP) ATTAIN TABLE													
T&R events required to Attain CSP (2000 Phase)													
INT	**FORM**	**CAL**	**TERF**	**EXT**	**GTR**	**HAAR**	**FCLP**	**XMAG**	**GAUAG**	**AGC**	**TAC**	**NS HLL**	**NS LLL**
S2100 **S2101** 2105R 2106R	2110R	2210 2211R	2310 2311R	2410R 2411R 2420R 2421R 2430R	**2540R**	**S2640**	2710R 2742R	**2810** **2811R** 2840 2841R	**2812** **2813R** 2842 2843R	2814 2844	2910 2911R	2120R 2220 2221R 2320 2321R 2920R	2230 2231R 2330 2331R 2930R
	Gray highlight & an R suffix on the event code = Refresher POI												
	An S prefix on the event code = Event conducted in a simulator (Preferred)												

CH-53D CREWCHIEF / AERIAL OBSERVER INDIVIDUAL CORE SKILL PROFICIENCY (CSP) ATTAIN TABLE												
T&R events required to Attain CSP (2000 Phase)												
INT	**FORM**	**CAL**	**TERF**	**EXT**	**GTR**	**FCLP**	**XMAG**	**GAUAG**	**AGC**	**TAC**	**NS HLL**	**NSLLL**
S2100 **S2101** 2105R 2106R	2110R	2210 2211R	2310 2311R	2410R 2420R 2430R	2540R	2710R 2742R	2810 2811R 2840 2841R	2812 2813R 2842 2843R	2814 2844	2910 2911R	2120R 2220 2221R 2320 2321R 2920R	2230 2231R 2330 2331R 2930R
	Gray highlight & an R suffix on the event code = Refresher POI											
	An S prefix on the event code = Event conducted in a simulator (Preferred)											

2. Events required to maintain individual CSP. To maintain CSP in a Core Skill, an individual must maintain proficiency in all 2000 phase T&R events listed for that Core Skill.

NOTE

Maintaining proficiency in these events will ensure that individual will never go delinquent in that corresponding skill in the attain table.

CH-53E CREWCHIEF / AERIAL OBSERVER INDIVIDUAL CORE SKILL PROFICIENCY (CSP) MAINTAIN TABLE												
T&R events required to Maintain CSP (2000 Phase)												
INT	**FORM**	**CAL**	**TERF**	**EXT**	**GTR**	**HAAR**	**FCLP**	**XMAG**	**GAUAG**	**TAC**	**NS HLL**	**NS LLL**
2105R 2106R	2110R	2211R	2311R	2421R 2430R	2540R	**S2640**	2742R	2811R 2841R	2813R 2843R	2911R	2221R 2321R 2920R	2231R 2331R 2930R
Gray highlight & an R suffix on the event code = Refresher POI												
An S prefix on the event code = Event conducted in a simulator (Preferred)												

CH-53D CREWCHIEF / AERIAL OBSERVER INDIVIDUAL CORE SKILL PROFICIENCY (CSP) MAINTAIN TABLE											
T&R events required to Maintain CSP (2000 Phase)											
INT	**FORM**	**CAL**	**TERF**	**EXT**	**GTR**	**FCLP**	**XMAG**	**GAUAG**	**TAC**	**NS HLL**	**NS LLL**
2105R 2106R	2110R	2211R	2311R	2420R 2430R	2540R	2742R	2811R 2841R	2813R 2843R	2911R	2221R 2321R 2920R	2231R 2331R 2930R
Gray highlight & an R suffix on the event code = Refresher POI											
An S prefix on the event code = Event conducted in a simulator (Preferred)											

303. INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) REQUIREMENTS. A MSP Crew consists of individuals representing each crew position who have achieved and currently maintain individual MSP. To be considered proficient in a Mission Skill, an individual must attain and maintain proficiency in Mission Skills events as delineated in the below paragraphs.

1. Events required to attain individual MSP. To initially attain MSP in a Mission Skill, an individual must simultaneously have a proficient status in all 3000 phase T&R events listed for that Mission Skill:

CH-53D/E CREWCHIEF / AERIAL OBSERVER INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) ATTAIN TABLE				
T&R events required to Attain MSP (3000 Phase)				
EXP	AT	AD	TRAP	AE
3140R	3240R	3340R	3440R	3540R
Gray highlight & an R suffix on the event code = Refresher POI				
An S prefix on the event code = Event conducted in a simulator (Preferred)				

2. Events required to maintain individual MSP. To maintain MSP in a Mission Skill, an individual must maintain proficiency in all 3000 phase T&R events listed for that Mission Skill:

CH-53D/E CREWCHIEF / AERIAL OBSERVER INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) MAINTAIN TABLE				
T&R events required to Maintain MSP (3000 Phase)				
EXP	AT	AD	TRAP	AE
3140R	3240R	3340R	3440R	3540R
Gray highlight & an R suffix on the event code = Refresher POI				
An S prefix on the event code = Event conducted in a simulator (Preferred)				

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 T&R events listed for that Core Plus Skill:

CH-53D/E CREWCHIEF / AERIAL OBSERVER INDIVIDUAL CORE PLUS PROFICIENCY ATTAIN TABLE											
T&R events required to Attain Core Plus Proficiency (4000 Phase)											
CORE PLUS SKILLS									MISSION PLUS SKILLS		
HIE	TERF EXT	DM	GTR	CBRN	CQ	TG	MTG	TAC	RAID	ADGR	SEA
S4100 4110R 4140R 4141R	S4412R S4440R	4510R 4511R	4540R	S4640	4711R 4743R	4810R 4811R 4840R	4841R	4940R 4941R	4980R	S4200 4240R 4981R	4982R
Gray highlight & an R suffix on the event code = Refresher POI											
An S prefix on the event code = Event conducted in a simulator (Preferred)											

4. Events required to maintain individual proficiency in Core Plus Skills. To maintain CSP in a Core Plus Skill, an individual must maintain proficiency in all T&R events listed in the table below for that Core Skill.

CH-53D/E CREWCHIEF / AERIAL OBSERVER INDIVIDUAL CORE PLUS PROFICIENCY MAINTAIN TABLE											
T&R events required to Maintain Core Plus Proficiency (4000 Phase)											
CORE PLUS SKILLS									MISSION PLUS SKILLS		
HIE	TERF EXT	DM	GTR	CBRN	CQ	TG	MTG	TAC	RAID	ADGR	SEA
4110R 4140R 4141R	S4440R	4510R 4511R	4540R		4743R	4810R 4811R 4840R	4841R	4940R 4941R	4980R	4240R 4981R	4982R
Gray highlight & an R suffix on the event code = Refresher POI											
An S prefix on the event code = Event conducted in a simulator (Preferred)											

304. REQUIREMENTS, QUALIFICATION, AND DESIGNATIONS TABLES. The tables below delineate T&R events required to be completed to attain proficiency, and initial qualifications and designations. In addition to event requirements, all required stage lectures, briefs, squadron training, prerequisites, and other criteria shall be completed prior to completing the final events. Certification, qualification and designation letters signed by the commanding officer shall be placed in Aircrew Performance Records (APR). Loss of proficiency in all qualification events caused the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.

INDIVIDUAL QUALIFICATION REQUIREMENTS	
Qualification	**Event Requirements**
TERF	2310 and 2311(R)
NSQ HLL	2120(R), 2220, 2221(R), 2320, 2321(R), 2920(R)
NSQ LLL	2230, 2231(R), 2330, 2331(R), 2930(R)
XMAG	2810, 2811(R), 2840, 2841(R)
GAUAG	**2812, 2813(R), 2842, 2843(R)**
AGC	**2814, 2844**
DM	4510(R), 4511(R)
TG	4810(R), 4811(R), 4840(R)
NATOPS	6100 IAW CURRENT OPNAV 3710
R = Refresher POI events required for re-qualification	

INDIVIDUAL DESIGNATION REQUIREMENTS	
Designation	**Event Requirements**
AO CH-53E	**S2100**, **S2101**, 2105, 2106, 2110, 2120, 2210, 2211, 2220, 2221, 2310, 2311, 2320, 2321, 2411, 2421, AG complete XM-218 or GAU-21 MWPC, 2910, 6100
AO CH-53D	**S2100**, **S2101**, 2105, 2106, 2110, 2120, 2210, 2211, 2220, 2221, 2310, 2311, 2320, 2321, 2410, 2420, AG complete XM-218 or GAU-21 MWPC, 2910, 6100
TERFI	IAW MAWTS-1 Course Catalog.
NSI	IAW MAWTS-1 Course Catalog.
AGI	IAW MAWTS-1 Course Catalog.
DMI	IAW MAWTS-1 Course Catalog.
TGI	IAW MAWTS-1 Course Catalog.
FRSIE (HMT-302)	5100, 5101, 5102, 5103, 5104, 5105, 5106, 5107
FRSID (MAG-24)	5200, 5201, 5202
NSFI	IAW MAWTS-1 Course Catalog.
WTI	IAW MAWTS-1 WTTP.

305. PROGRAMS OF INSTRUCTION (POI). A POI is a group of events within a syllabus that an individual is required to perform; a POI can be thought of as a subset of a T&R syllabus. There are four POI categories; Basic (B), Series Conversion (SC), Transition (T), and Refresher (R). Individuals are assigned to one POI at any given time. Events are annotated in both the event description and the T&R Syllabus Matrix with a (B), (SC), (T), and (R).

1. Basic (B). The POI prescribed for newly designated personnel.

2. Series Conversion (SC). The POI prescribed for personnel converting from a particular series of aircraft to a new series that has significantly different aircraft or weapons systems characteristics e.g., CH-53E to CH-53D.

3. Transition (T). The POI prescribed for personnel changing aircraft/platform type e.g., CH-46 to CH-53. All Transition (T) personnel shall follow the Basic (B) POI for all training.

4. Refresher. (B) and (SC) POIs should include all training required to achieve an MOS if applicable (CNATRA and OPNAVINST 3710.7 training is understood and does not need to be listed). An individual is assigned to the (B) or (SC) POI of a T&R syllabus one time only, at the beginning of the individual's first fleet tour in a particular MOS. These POIs are similar in that they contain events an individual requires the aircrew to initially attain proficiency in a MOS.

5. Basic And Transition Poi

WEEKS	COURSE	PERFORMING ACTIVITY
1-16	Core Skill Introduction Training	FRS
18-64	Core Skill Training	Tactical Squadron
64+	Mission Skill Training	Tactical Squadron
64+	Core Plus Training	Tactical Squadron

6. Refresher And Series Conversion Poi

WEEKS	COURSE	PERFORMING ACTIVITY
1	CH-53D or CH53E Familiarization	MAG-24/Tactical Squadron
2-4	Ground schools/OJT	MAG-24/Tactical Squadron
5-12	Core Skill Introduction Training	MAG-24/Tactical Squadron
12-41	Core Skill Training	Tactical Squadron
41+	Mission Skill Training	Tactical Squadron
41+	Core Plus Training	Tactical Squadron

306. ACADEMIC TRAINING

1. General. The Academic syllabus is designed to ensure aircrewman receive the proper academic training prior to starting a new phase and stage of training. Within each phase of training (0000-6000) there are corresponding stages, each stage has an academic syllabus. The required academic syllabus for each stage of training is further delineated in the beginning paragraphs of each phase. Each phase and stage contain specific academic requirements which must be completed either prior to phase and/or stage initiation or prior to phase and/or stage completion. Academic/ground training events can either be accomplished by an individual utilizing self paced courseware or presented by a qualified instructor. The Enlisted Aircrew Training Chief / Squadron WTI, shall ensure that the appropriate academic/ground training event is manually updated in MSHARP and logged in the APR.

2. Requirements. The purpose of the academic syllabus is to ensure that required academic courses for each phase/stage of training are completed and logged in M-SHARP for each Crew Member. A summary of academic classes that is required for all of the phases of training (0000-6000) are listed below with their corresponding T&R code. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

a. The academic/ground training shall be complete IAW the phase and/or stage requirements and prerequisites. Upon completion, the CCUI / AOUI shall report to the appropriate Operations Department (S-3) representative, (typically the Enlisted Aircrew Training Chief / Squadron WTI) or designated representative(s), who will then manually update the training code in MSHARP and log the academic/ground training event in the appropriate section of the APR, using the "AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET ACADEMIC TRACKER" on page 3-168 of this document.

b. Annual academic/ground training events shall be updated in MSHARP and logged in the appropriate section of the APR, each time they are completed IAW the refly interval.

c. Additionally, academic/ground training classes not listed as requirements in the T&R should be logged in the appropriate section of the APR using enclosure (2).

d. Upon signature of this manual, the squadron operations department will manually update and baseline all academic requirements, in both MSHARP and APR(s) for all phases and stages that aircrew have previously completed, at the discretion of the Squadron Commanding Officer.

T&R CODE	ACADEMIC SYLLABUS
	CORE SKILL INTRODUCTION (1000)
	CH-53E CBT
CBT-0100	(U) CH-53E HISTORY
CBT-0102	(U) INTERIOR FAMILIARIZATION
CBT-0103	(U) EXTERIOR FAMILIARIZATION
CBT-0118	(U) APP OPERATION
CBT-0119	(U) AFCS
CBT-0120	(U) BLADE SPREAD/FOLD PROCEDURES
CBT-0124	(U) EMERGENCY PROCEDURES
CBT-0126	(U) TAXI / TAKEOFF / IN-FLIGHT CHECKS & PROCEDURES
CBT-0130	(U) INTERNAL CARGO HANDLING
CBT-0190	(U) BEARING MONITOR SYSTEM
T&R CODE	**CH-53 ACADEMICS**
ACAD-0200	(U) COURSE INTRODUCTION BRIEF
ACAD-0201	(U) BASIC GROUND HANDLING AND AIRCRAFT MOVEMENT
ACAD-0202	(U) AIRCRAFT INTERIOR
ACAD-0203	(U) ELECTRONICS COMPARTMENTS
ACAD-0204	(U) LANDING GEAR
ACAD-0205	(U) REFUEL, AUX TANKS, L/R FUSELAGE
ACAD-0206	(U) ENGINES, NOSE GEAR BOX, EAPS
ACAD-0207	(U) AFT MAIN ROTOR PYLON
ACAD-0208	(U) TAIL DRIVE SHAFTS
ACAD-0209	(U) TAIL SKID, IGB, TGB, TAIL SERVO
ACAD-0210	(U) TAIL ROTOR HEAD, ROTOR BLADES
ACAD-0211	(U) MGB, FLIGHT CONTROL MIXER UNIT
ACAD-0212	(U) 2ND STAGE, UTILITY HYDRAULIC
ACAD-0213	(U) AUXILIARY POWER PLANT
ACAD-0214	(U) MAIN ROTOR HEAD AND BLADES
ACAD-0215	(U) MISSION SYSTEMS
ACAD-0216	(U) TURNAROUND INSPECTION
ACAD-0217	(U) REFUELING AND DEFUELING
ACAD-0218	(U) APP OPERATION
ACAD-0219	(U) FLIGHT CONTROLS, AFCS
ACAD-0220	(U) BLADE AND PYLON FOLD AND SPREAD PROCEDURES
ACAD-0221	(U) PLANE CAPTAIN RESPONSIBILITIES
ACAD-0222	(U) NATOPS FLIGHT PROCEDURES
ACAD-0223	(U) PRE/POST FLIGHT INSPECTION
ACAD-0224	(U) EGRESS PROCEDURES
ACAD-0225	(U) CRM
ACAD-0226	(U) START UP/SHUT DOWN PROCEDURES
ACAD-0227	(U) SINGLE POINT ENGINE PLOT/OPERATIONAL POWER CHECK
ACAD-0228	(U) READINESS MANUAL
ACAD-0229	(U) .50 CALIBER MACHINE GUN
ACAD-0230	(U) CARGO LOADING
ACAD-0270	(U) EXTERNAL TRANSPORTATION
ACAD-0280	(U) TERRAIN FLIGHT MANUVERS
ACAD-0290	(U) AIRCRAFT TRACK AND BALANCE
ACAD-0291	(U) IMDS

T&R CODE	LAB TRAINING (LAB) CH-53E
LAB-0301	(U) BASIC GROUND HANDLING AND AIRCRAFT MOVEMENT
LAB-0302	(U) AIRCRAFT INTERIOR
LAB-0303	(U) ELECTRONICS COMPARTMENTS
LAB-0304	(U) LANDING GEAR
LAB-0305	(U) REFUEL, AUX TANKS, L/R FUSELAGE
LAB-0306	(U) ENGINES, NOSE GEAR BOX, EAPS
LAB-0307	(U) AFT MAIN ROTOR PYLON
LAB-0308	(U) TAIL DRIVE SHAFTS
LAB-0309	(U) TAIL SKID, IGB, TGB, TAIL SERVO
LAB-0310	(U) TAIL ROTOR HEAD, ROTOR BLADES
LAB-0311	(U) MGB, FLIGHT CONTROL MIXER UNIT
LAB-0312	(U) 2ND STAGE, UTILITY HYDRAULIC
LAB-0313	(U) AUXILIARY POWER PLANT
LAB-0314	(U) MAIN ROTOR HEAD AND BLADES
LAB-0315	(U) MISSION SYSTEMS
LAB-0316	(U) TURNAROUND INSPECTION
LAB-0317	(U) REFUELING AND DEFUELING
LAB-0318	(U) APP OPERATION
LAB-0319	(U) FLIGHT CONTROLS, AFCS
LAB-0321	(U) DAILY INSPECTION
LAB-0322	(U) TURNAROUND INSPECTION
LAB-0323	(U) FLIGHT EQUIPMENT
LAB-0324	(U) EGRESS PROCEDURES
T&R CODE	**ACADEMIC STAGE (ACAD) CH-53D**
ACAD-0400	(U) CH-53D CREW CHIEF CBT COMPLETE
T&R CODE	**LAB TRAINING (LAB) CH-53D**
LAB-0421	(U) DAILY INSPECTION
LAB-0422	(U) TURNAROUND
T&R CODE	**CREW CHIEF INSTRUCTOR STAGE (INST)**
FRSIE-0500	(U) COMPUTER AIDED INSTRUCTION
FRSIE-0501	(U) LAB PERIOD OF INSTRUCTION
FRSIE-0502	(U) INSTRUCTIONAL SKILLS
FRSIE-0503	(U) PERIOD OF INSTRUCTION
T&R CODE	**EVALUATION STAGE (EVAL)**
EVAL-0600	(U) PLANE CAPTIAN DUTIES
EVAL-0601	(U) PLANE CAPTIAN DUTIES REVIEW

T&R CODE	ACADEMIC SYLLABUS
	CORE SKILL PHASE (2000)
ACAD-2004	(S) AAR / ALE 47
ACAD-2012	(S) APR-39
ACAD-2018	(S) ALQ-157 (CH-53D)
ACAD-2019	(S) AAQ-24
ACAD-2050	(U) EA Tactical aircrew considerations and responsibility
ACAD-2051	(U) EA Terrain flight for enlisted aircrew
ACAD-2052	(U) EA Night vision training
ACAD-2053	(U) EA Fundamentals of aerial gunnery
ACAD-2054	(U) EA XM-218/GAU-16A machine gun
ACAD-2055	(U) EA GAU-21 .50 cal machine gun
ACAD-2056	(U) EA Laser aiming devices
ACAD-2057	(U) EA Laser boresighting
ACAD-2058	(U) EA Basic principles of escort operations

T&R	ACADEMIC SYLLABUS
	CORE MISSION SKILL PHASE (3000)
ACAD-3002	(U) NEO EXECUTION
ACAD-3004	(S) PERSONNEL RECOVERY
ACAD-3005	(S) CH53 SPECIFIC TRAP TTPS
ACAD-3006	(U) CASEVAC

T&R CODE	ACADEMIC SYLLABUS
	CORE PLUS SKILL PHASE (4000)
ACAD-4011	(U) EA Aviation Delivered Ground Refueling TBFDS (CH-53E) / MK-105 (CH-53D)
ACAD-4050	(U) EA Basic principles of electronic warfare
ACAD-4051	(U) EA Defensive measures
ACAD-4052	(U) EA Defensive measures part 2 (CH-53)
ACAD-4053	(U) EA Training the tail gunner

307. AIRCREW TRAINING REFERENCES. Aircrew shall use the following references to ensure safe and standardized training procedures, grading criteria, and aircraft operation.

Designator	Title
OPNAVIST 3710.7	NATOPS General Flight and Operating Instructions
NAVAIR 01-230HMA-1	CH-53D NATOPS Flight manual
NAVAIR H53BE-NFM-000	CH-53E NATOPS Flight manual
MCO 3500.14	Aviation T&R Program manual
MCO 4790.20	Individual training standards
MCRP 4-23E	Multiservice helicopter sling load MANUAL
ANTTP 3-22.3-53	CH-53 Air Naval Tactics Techniques
ANTTP 3-22.5	USMC Assault Support Tactical SOP
NVD manual	USN/USMC Helicopter Night Vision Device
A1-H53BE-CLG-000	Cargo loading
TM HM-020-800-23&P-M	Tactical Bulk Fuel Delivery System
TBFDS APCL-CH53E	TBFDS Aircrew Pocket Checklist
EA Instructor support package	MAWTS-1 Course Catalog
EA Academic support package	MAWTS-1 EA ASP
GTR program guide	MAWTS-1 Ground Threat Reaction Program guide
DM program guide	MAWTS-1 Defensive Measures program Guide
NTRP 3-22.4	Naval Aviation Technical Information Product

308. SYLLABUS NOTES

1. General

a. This Manual is written to allow for local conditions and yet remain unclassified. DC AVN and CG MCCDC encourage squadrons to use the full range of tactics in the tactical manuals and adopt the latest developed and proven tactics.

b. All events shall terminate with a comprehensive debrief with emphasis on aircrew performance using all evaluation techniques.

c. Aircrew shall fly events annotated with an N at least 30 minutes after official sunset.

d. Aircrew shall fly night events in accordance with the following list of acronyms for event conditions:

Environmental Conditions	
Code	**Meaning**
D	Shall be flown daytime
N	Shall be flown at night, may be aided or unaided.
N*	Shall be flown at night, must be flown unaided.
(N*)	May be flown at night – If flown at night, must be flown unaided.
(N)	May be flown at night – If flown at night; may be flown aided or unaided.
NS	Shall be flown at night – Mandatory use of Night Vision Devices.
(NS)	May be flown at night – If flown at night; must be flown with Night Vision Devices.
Note – If the event is to be flown in the simulator the Instructor shall set the desired environmental conditions for the event.	

e. List of acronyms for crew requirements:

(1) CC – Crew Chief.

(2) AO – Aerial Observer.

(3) CCUI – Crew Chief Under Instruction.

(4) AOUI – Aerial Observer Under Instruction.

(5) AG – Aerial Gunner (may be a Crew Chief or Aerial Observer who is aerial gun qualified).

(6) AGUI – Aerial Gunner Under Instruction (may be a Crew Chief or Aerial Observer).

(7) TG – Tail Gunner (may be a Crew Chief or Aerial Observer who is tail gun qualified).

(8) TGUI – Tail Gunner Under Instruction.

2. Syllabus Assignment

a. CH-53 Basic, Transition and Refresher Aircrew

(1) Basic and Transition aircrew shall be assigned to fly the entire Basic POI. Refresher aircrew will fly those events designated by an R in the flight description.

(2) The squadron enlisted WTI, or designated representative shall enter all Aircrew Training Forms (ATF) in section 3 of the APR for all flights designated by R in the flight description. These ATFs will replace ATFs previously entered in section 3.

b. CH-53E to CH-53D Series Conversion

(1) CH-53D initial accession (first fleet tour/CAT I) enlisted aircrew will perform basic Core Skill Introduction training at the FRS(HMT-302)

followed by CH-53E to CH-53D Series Conversion Core Skill Introduction training conducted at MAG-24. Upon completion of CH-53E to CH-53D Series Conversion Core Skill Introduction training, initial accession enlisted aircrew shall resume the Basic POI Core Skill (2000-6000) syllabus per the T&R, at the tactical squadron.

(2) CH-53D Core Skill Introduction training conducted at MAG-24 shall be conducted IAW the MAG-24 Core Skill Introduction training standardization manual. The MAG-24 standardization department shall manage and execute CH-53E to CH-53D initial accession(first fleet tour/CAT I) Series Conversion Core Skill Introduction training (vice a CH-53 FRS).

(3) Aircrew assigned to these syllabi shall check in to MAG-24 and remain with the MAG until the POI is complete. Aircrew shall be assigned to the MAG-24 standardization department for the duration of Core Skill Introduction training. Upon completion of the POI, Aircrew will be given orders assigning them to an operational squadron.

(4) The MAG-24 standardization department shall be headed by the MAG DOSS and shall be manned by a minimum of 3 Pilot and 3 CC CH-53D Fleet Replaceme4nt Squadron Instructors - Delta (FRSI-D). Each MAG-24 CH-53D squadron shall be manned by a minimum of 1 pilot and 1 CC FRSI-Ds.

(5) The MAG-24 standardization evaluator shall certify all FRSI-Ds prior to designation. The MAG-24 standardization evaluator shall conduct an annual standardization check for all MAG FRSI-Ds.

(6) Only the MAG-24 Commanding Officer may approve waiver/deferral of Core Skill Introduction training (per paragraph 305 of NAVMC 3500.14 (Program Manual).

(7) MAG-24 shall coordinate aircraft support from CH-53D squadrons in support of these syllabi.

(8) MAG-24 shall provide a training environment where other billet responsibilities do not detract from that training IAW NAVMC 3500.14 (Program Manual).

(9) CH-53E to CH-53D Series Conversion aircrew shall fly those 1000 phase flights designated by an SCD in the event description with a designated CH-53D Fleet Replacement Squadron Instructors - Delta (FRSI-D).

(10) CH-53E to CH-53D Series Conversion aircrew with previous fleet experience in the CH-53E, will check directly into the tactical squadron. They shall fly those 1000 phase events designatged by an SCD in the event description with a designated FRSI-D. Upon completion of 1000 level SCD events, Series Conversion aircrew shall continue to fly SC/SCD-coded events at the tactical squadron. The Squadron Commanding Officer may tailor the series conversion syllabus to fit the experience of the conversion aircrew, per the squadron standardization board recommendations and NAVMC 3500.14, Aviation T&R Program Manual, chapter 2, paragraph 207.

c. CH-53D to CH-53E Series Conversion

(1) CH-53D to CH-53E Series Conversion enlisted aircrew currently qualified on the CH-53D without previous CH-53E experience will fly those

1000 phase events designated by an SCD in the event description at the FRS(HMHT-302). Upon completion of the 1000 phase SCE events, CH-53D to CH-53E conversion aircrew shall fly those 2000-6000 phase events designated by an SC/SCE in the event description at the tactical squadron.

(2) Current CH-53D aircrew who previously completed the 1000 phase events at the FRS (HMHT-302) conducting a Series Conversion who have not exceeded 485 days since their last CH-53 flight will conduct the Series Conversion at their Tactical Squadron. The Series Conversion aircrew shall fly those 2000-6000 phase events designated by an SC/SCE in the event description at the tactical squadron.

(3) The Squadron Commanding Officer may tailor the series conversion syllabus to fit the experience of the conversion aircrew, per the squadron standardization board recommendations and NAVMC 3500.14, Aviation T&R Program Manual, chapter 2, paragraph 207.

3. Secondary AMOS Crew Chief. All efforts shall be made with MMEA-84 to receive assignment of primary MOS CCs prior to utilizing secondary AMOS program. If inventory shortages cannot be filled through MMEA-84, authorization is granted to individual unit CO's to train secondary AMOS 6173 under the following guidelines:

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

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

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

(1) Organization requesting training of secondary AMOS CC.

(2) Name, rank, MOS, and SSN of trainee.

(3) Total number of CCs rated by PAA.

(4) Total number of primary and secondary AMOS CCs assigned to requesting MCC.

(5) Adequate justification for training a secondary AMOS CC.

(6) Faxed copy of initial AO NATOPS evaluation report (OPNAV 3710.7 form).

d. Upon receipt of request, ATB will approve/disapprove request via ASL/ASM and notify requesting command through AMHS 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:

(1) All Secondary AMOS Crew Chiefs shall be assigned to fly the entire Basic POI. Core Skill Basic, Advanced and Plus flights previously flown as an Aerial Observer shall not transfer to the training of the secondary AMOS CC. All flights must be flown with CCUI acting in the capacity of a CC.

(2) To ensure MOS standardization all Core Skill Introduction (1000 phase) events shall be flown with a current enlisted Weapons and Tactics Instructor (MOS 6177) or NATOPS Evaluator/Instructor holding a primary MOS of 6173. Only a currently assigned and designated FRSI CC instructor (FRSI) shall administer the Core Skill Introduction evaluation flight.

(3) The Total Time to Train (TTT) secondary AMOS CCs shall not exceed 6 months. The date of initial flight and completion of evaluation flight define the TTT.

e. Only the FRS CO's have the authority to designate the secondary AMOS of 6173. 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 FRSI CC shall be the responsibility of the requesting squadron.

f. The FRSI CC shall administer the closed book NATOPS examination, oral exam, and Core Skill Introduction evaluation flight. Prior to Core Skill Introduction evaluation flight parent commands shall ensure:

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

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

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

g. Upon completion of Core Skill Introduction evaluation flight, copies of all certifications and evaluations shall be submitted to respective FRS CO's for secondary AMOS certification/approval. Documents to be submitted are:

(1) Copy of current flight physical.

(2) Copy of physiology/water survival form 3760/32.

(3) Copy of all CC 1000 phase ATF's.

(4) Copy of current flight orders.

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

(6) Copy of current Plane Captain designation.

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

(8) Original CC evaluation form, OPNAV 3710/7.

(9) Copy of SERE completion certificate.

(10) Marines listed as instructor on 1000 phase ATFs must submit a copy of respective WTI certificate or NATOPS Evaluator/Instructor designation.

(11) 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.

(12) Evaluation standards applicable to primary MOS CCs shall be strictly adhered to.

h. The FRSI CC shall forward original OPNAV 3710/7 form to FRS CO for approval. The FRS CO shall sign the NATOPS evaluation and a CC designation letter and forward to the originating command for insertion into trainees NATOPS jacket.

i. In order to facilitate management of the MOS end strengths, secondary AMOS CCs desiring a primary 6173 MOS, will forward the appropriate AA form to MMEA-6 requesting a lateral move from a secondary AMOS CC to a primary MOS CC.

j. On hand primary designated MOS CC shall have priority for crewmember flight orders IAW MCO1326.2G.

k. 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.

l. Refer to DMS R CG TECOM ATB 141412Z APR 05 for helicopter additional MOS Crew Chief training program message.

m. POC for secondary AMOS Crew Chief training program is TECOM ATB.

4. Designation as Aerial Observer

a. The AOUI will not conduct any of the Core Skill Introduction phase and will begin training in the Core Skill phase for all academic and flight training. The AOUI may obtain any and all qualifications from the Core Skill through the Mission Plus Skill phases of training. The only qualification the AOUI may obtain in the Instructor Training phase is the AGI qualification.

b. The A/O syllabus requires the AOUI to complete the TERF and AG syllabi prior to initial EVAL-6100. However, these aircrew shall not be issued designation letters or utilized as a qualified crewmember until after completion of EVAL-6100. After successful completion of EVAL-6100, AOUI may be designated an Aerial Observer, TERFQ, and AGQ by the commanding officer. A designation letter, signed by the commanding officer is required. The original shall be placed in the AO’s NATOPS jacket, and a copy in their APR with a corresponding logbook entry. An AMOS code of 6199 should be run on the AO’s thru the unit S-1/IPAC.

5. Prior Qualification. Previously qualified CH-53 CCs and AOs returning from a non-flying tour of 36 months or longer shall fly the appropriate refresher POI.

6. Evaluation Sorties

a. These events shall be flown with an experienced Crew Chief Instructor (TERFI, NSI, AGI, TGI, DMI, WTI) designated for the specific flight instruction required.

b. A designated NATOPS Instructor/Assistant NATOPS Instructor shall evaluate EVAL-6100. AOUI shall fly EVAL-6100 prior to being designated an Aerial Observer.

7. A Crew Chief Instructor (TERFI, NSI, AGI, TGI, DMI, WTI) proficient in a given event shall evaluate any initial event required for a Basic, Series Conversion, or Refresher Crew Chief or Aerial Observer. A qualified and designated Crew Chief Instructor shall complete an Aviation Training Form (ATF). Pilots will not sign off Crew Chief ATFs with the exception of Mission Skill/Mission Plus Skill events. Aerial Observers will not sign off a Crew Chief in any event.

8. All flights annotated with an E shall be evaluated per T&R program manual.

9. The Enlisted Aircrew Training Chief (Squadron WTI) shall ensure all ATFs are entered in section 3 of the APR for all initial/refresher events flown.

10. 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.

11. Aircrew Training Events

a. Events shall be documented IAW NAVMC 3500.14 Aviation Program Manual, chapter 2, paragraph 209 and using the form listed in this manual.

b. All CC & AOs shall have an Aircrew Training Form (ATF) filled out upon completion of the following:

(1) Core Skill Introduction Check (CSIX-1901). For initial accession or newly assigned aircrew, a designated FRI CC or MAG-24 FRSI-Ds shall evaluate the CSIX-1901. For Refresher or Series Conversion aircrew, a qualified NATOPS Instructor/Assistant shall evaluate the CSIX-1901. This event is considered the initial NATOPS evaluation for Crew Chiefs only. For Aerial Observers the initial NATOPS evaluation EVAL-6100 shall be evaluated by an NI/ANI within the 53 community.

(2) Annual NATOPS check for CC & AO (EVAL-6100). A designated NATOPS Instructor/ Assistant or Group Evaluator shall evaluate the EVAL-6100.

(3) Any sortie that requires a TERFI, NSI, AGI, TGI, DMI or WTI.

(4) Annual CRM flight shall be flown with a current CRMI or CRMF.

b. If the commanding officer has waived or deferred a syllabus sortie, the squadron enlisted WTI shall place a waiver or deferment letter in section 3 of the APR.

c. All ATFs shall annotate the appropriate crew position under instruction.

12. Crew Resource Management (CRM). Aircrew shall brief techniques and aspects of CRM for all flights and/or events. The CC will always be alert for other aircraft or obstacles to flight. He will supervise internal loading at the direction of the Pilot , verbally direct the Pilot during external hookups and releases, and supervise the embarkation and debarkation of passengers. The CC may detect system failures before the Pilot and must inform him of potential malfunctions. He can effect minor airborne repairs and supervise any additional crew members that the mission may require.

13. Definition of Terms

a. Demonstrate: The description and performance of a particular maneuver is demonstrated by the instructor, observed by the CCUI/AOUI. The CCUI/AOUI is responsible for knowledge of the procedures prior to the demonstration of a required maneuver.

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

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

d. Practice: The performance of a maneuver or procedure by the CCUI/AOUI that may have been previously introduced in order to attain a specified level of performance.

e. Review: Demonstrated proficiency of a maneuver by the CCUI/AOUI.

309. CORE SKILL INTRODUCTION ACADEMIC PHASE (0000 PHASE)

1. General. Prior to starting CH-53 Aircrew Core Skill Introduction FRS Academic Phase training, aircrew must have completed the CNATT MARU CH-53E Power Plants and Related Systems Maintenance (6113 MOS Helicopter Mechanics training track), Course Identification Number M0590N1.

a. Abbreviations. The following abbreviations apply to this phase of training:

Abbreviation	Meaning
A	Aircraft
B	Basic Training Syllabus
CBT	Computer Based Training
CI	Contract Instructor
CLSRM	Classroom
CBT	Interactive Courseware
FRSID	Fleet Replacement Squadron Instructor Delta
FRSIE	Fleet Replacement Squadron Instructor Echo
MR	Modified Refresher Training Syllabus
R	Refresher Training Syllabus
S/A	Simulator preferred/Aircraft optional
SCD	Series Conversion “Delta” Training Syllabus
SCE	Series Conversion “Echo” Training Syllabus

b. Stages
0100-CBT
0200-ACAD
0300-LAB
0400-CBT/LAB (CH-53D Only)
0500-INST
0600-EVAL

2. Ground/Academic Training. Upon completion, the CCUI/AOUI shall report to the designated representative(s), who will then manually update the training code in M-SHARP and log the academic/ground training event in section 3 (Aircrew Ground School Training) of the APR, using the Enlisted Aircrew Performance Record/Qualification Jacket Academic Tracker beginning on Pg 3-164 of this document.

CORE SKILL INTRODUCTION FRS ACADEMIC PHASE (0000 PHASE)

CH-53E CBT

CBT-0100	(U) CH-53E HISTORY
CBT-0102	(U) INTERIOR FAMILIARIZATION
CBT-0103	(U) EXTERIOR FAMILIARIZATION
CBT-0118	(U) APP OPERATION
CBT-0119	(U) AFCS
CBT-0120	(U) BLADE SPREAD/FOLD PROCEDURES
CBT-0124	(U) EMERGENCY PROCEDURES
CBT-0126	(U) TAXI / TAKEOFF / IN-FLIGHT CHECKS & PROCEDURES
CBT-0130	(U) INTERNAL CARGO HANDLING
CBT-0190	(U) BEARING MONITOR SYSTEM

CH-53E ACADEMICS

ACAD-0200	(U) COURSE INTRODUCTION BRIEF
ACAD-0201	(U) BASIC GROUND HANDLING AND AIRCRAFT MOVEMENT
ACAD-0202	(U) AIRCRAFT INTERIOR
ACAD-0203	(U) ELECTRONICS COMPARTMENTS
ACAD-0204	(U) LANDING GEAR
ACAD-0205	(U) REFUEL, AUX TANKS, L/R FUSELAGE
ACAD-0206	(U) ENGINES, NOSE GEAR BOX, EAPS
ACAD-0207	(U) AFT MAIN ROTOR PYLON
ACAD-0208	(U) TAIL DRIVE SHAFTS
ACAD-0209	(U) TAIL SKID, IGB, TGB, TAIL SERVO
ACAD-0210	(U) TAIL ROTOR HEAD, ROTOR BLADES
ACAD-0211	(U) MGB, FLIGHT CONTROL MIXER UNIT
ACAD-0212	(U) 2ND STAGE, UTILITY HYDRAULIC
ACAD-0213	(U) AUXILIARY POWER PLANT
ACAD-0214	(U) MAIN ROTOR HEAD AND BLADES
ACAD-0215	(U) MISSION SYSTEMS
ACAD-0216	(U) TURNAROUND INSPECTION
ACAD-0217	(U) REFUELING AND DEFUELING
ACAD-0218	(U) APP OPERATION
ACAD-0219	(U) FLIGHT CONTROLS, AFCS
ACAD-0220	(U) BLADE AND PYLON FOLD AND SPREAD PROCEDURES
ACAD-0221	(U) PLANE CAPTAIN RESPONSIBILITIES
ACAD-0222	(U) NATOPS FLIGHT PROCEDURES
ACAD-0223	(U) PRE/POST FLIGHT INSPECTION
ACAD-0224	(U) EGRESS PROCEDURES
ACAD-0225	(U) CRM

ACAD-0226 (U) START UP/SHUT DOWN PROCEDURES
ACAD-0227 (U) SINGLE POINT ENGINE PLOT/OPERATIONAL POWER CHECK
ACAD-0228 (U) READINESS MANUAL
ACAD-0229 (U) .50 CALIBER MACHINE GUN
ACAD-0230 (U) CARGO LOADING
ACAD-0270 (U) EXTERNAL TRANSPORTATION
ACAD-0280 (U) TERRAIN FLIGHT MANUVERS
ACAD-0290 (U) AIRCRAFT TRACK AND BALANCE
ACAD-0291 (U) IMDS

LAB TRAINING (LAB) CH-53E
LAB-0301 (U) BASIC GROUND HANDLING AND AIRCRAFT MOVEMENT
LAB-0302 (U) AIRCRAFT INTERIOR
LAB-0303 (U) ELECTRONICS COMPARTMENTS
LAB-0304 (U) LANDING GEAR
LAB-0305 (U) REFUEL, AUX TANKS, L/R FUSELAGE
LAB-0306 (U) ENGINES, NOSE GEAR BOX, EAPS
LAB-0307 (U) AFT MAIN ROTOR PYLON
LAB-0308 (U) TAIL DRIVE SHAFTS
LAB-0309 (U) TAIL SKID, IGB, TGB, TAIL SERVO
LAB-0310 (U) TAIL ROTOR HEAD, ROTOR BLADES
LAB-0311 (U) MGB, FLIGHT CONTROL MIXER UNIT
LAB-0312 (U) 2ND STAGE, UTILITY HYDRAULIC
LAB-0313 (U) AUXILIARY POWER PLANT
LAB-0314 (U) MAIN ROTOR HEAD AND BLADES
LAB-0315 (U) MISSION SYSTEMS
LAB-0316 (U) TURNAROUND INSPECTION
LAB-0317 (U) REFUELING AND DEFUELING
LAB-0318 (U) APP OPERATION
LAB-0319 (U) FLIGHT CONTROLS, AFCS
LAB-0321 (U) DAILY INSPECTION
LAB-0322 (U) TURNAROUND INSPECTION
LAB-0323 (U) FLIGHT EQUIPMENT
LAB-0324 (U) EGRESS PROCEDURES

ACADEMIC STAGE (ACAD) CH-53D
ACAD-0400 (U) CH-53D CREW CHIEF CBT COMPLETE

LAB TRAINING (LAB) CH-53D
LAB-0421 (U) DAILY INSPECTION
LAB-0422 (U) TURNAROUND

FLEET REPLACEMENT SQUADRON INSTRUCTOR ECHO STAGE (FRSIE)
FRSIE-0500 (U) COMPUTER AIDED INSTRUCTION
FRSIE-0501 (U) LAB PERIOD OF INSTRUCTION
FRSIE-0502 (U) INSTRUCTIONAL SKILLS
FRSIE-0503 (U) PERIOD OF INSTRUCTION

EVALUATION STAGE (EVAL)
EVAL-0600 (U) PLANE CAPTIAN DUTIES
EVAL-0601 (U) PLANE CAPTIAN DUTIES REVIEW

3. Computer Based Training

a. Purpose. To provide the CCUI with a basic understanding of CH-53E systems and operating characteristics.

b. General. Instructors shall complete all applicable 0500 stage events in this phase of training prior to performing instructor duties.

c. Crew Requirement. CCI/CCUI.

CBT 0100 1.0 * B,R,MR,SCE,CI,FRSIE CBT

Goal. Provide the Crew Chief Under Instruction (CCUI) with CH-53 Historical background and provide introduction to associated course publications.

Requirement
Introduce:
General CH-53 historical information
CH-53 NATOPS manual and related maintenance publications

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of CH-53:
Historical information
NATOPS manual and related maintenance publications

Prerequisite. ACAD 0200

External Syllabus Support. Electronic classroom

CBT 0102 1.0 * B,R,MR,SCE,CI,FRSIE CBT

Goal. Introduce CCUI to the components of the cockpit and cabin interior.

Requirement.
Introduce:
Cabin interior
Cockpit
Cabin emergency equipment

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of:
Cabin interior
Cockpit
Cabin emergency equipment

Prerequisite. CBT 0100

External Syllabus Support. Electronic classroom

Reference.
A1-H53CE-GAI-000
A1-H53CE-MRC-200

CBT 0103 1.0 * B,R,MR,SCE,CI,FRSIE CBT

Goal. Introduce the CCUI to the location of aircraft exterior components, panels and the identification of water lines and butt lines.

Requirement
Introduce:
- Helicopter dimensions
- Component locations
- Danger areas

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of:
- Helicopter dimensions
- Component locations
- Danger areas

Prerequisite. CBT 0102

External Syllabus Support. Electronic classroom

Reference.
- A1-H53CE-GAI-000

CBT 0118 1.5 * B,R,MR,SCE,CI,FRSIE CBT

Goal. Introduce CCUI to the principles of APP operation.

Requirement.
Introduce:
- APP safety precautions
- Fire bottle procedures
- Hand and arm signals
- APP Principles of operation

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of:
- APP safety precautions
- Fire bottle procedures
- Hand and arm signals
- APP operation

Prerequisite. CBT 0103

External Syllabus Support. Electronic classroom

Reference.
- A1-H53BE-NFM-900
- A1-H53CE-220-000

CBT 0119 1.0 * B,R,MR,SCE,CI,FRSIE CBT

Goal. Introduce CCUI with the control functions and principles of operation of the AFCS.

Requirement.
Introduce:
Collective, yaw and cyclic control functions
AFCS principles of operation

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of:
Collective, yaw and cyclic control functions
AFCS principles of operation

Prerequisite. CBT 0103

External Syllabus Support. Electronic classroom

CBT 0120 1.0 * B,R,MR,SCE,CI,FRSIE CBT

Goal. Introduce CCUI to the blade fold and spread procedures and functions.

Requirement.
Introduce:
Blade/Pylon fold/spread safety considerations
Blade fold procedures
Blade spread procedures
Pylon fold procedures
Pylon spread procedures

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of:
Blade/Pylon fold/spread safety considerations
Blade fold procedures
Blade spread procedures
Pylon fold procedures
Pylon spread procedures

Prerequisite. CBT 0103

External Syllabus Support. Electronic classroom

Reference.
A1-H53BE-NFM-900
A1-H53CE-GAI-000

CBT 0124 1.0 * B,R,MR,SCE,CI,FRSIE CBT

Goal. Introduce Emergency Procedures (EPs) to the CCUI

Requirement.
Introduce:
Fire EPs
Smoke/Fumes EPs
Bearing Monitor System EPs
Emergency landing
Landing gear system failure

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of:
- Fire
- Smoke/Fumes
- Bearing monitor system
- Emergency landing
- Landing gear system failure

Prerequisite. CBT 0103

External Syllabus Support. Electronic classroom

Reference.
- A1-H53BE-NFM-000
- A1-H53BE-NFM-900

CBT 0126 1.0 * B,CI,FRSIE CBT

Goal. Introduce the CCUI to taxi, take off and in-flight checks and procedures.

Requirement.
Introduce:
- Hand and arm signals
- Aircraft clearance
- Pre-taxi, take off, and in-flight checklists

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of:
- Hand and arm signals
- Aircraft clearance
- Pre-taxi, take off, and in-flight checklists

Prerequisite. CBT 0103

External Syllabus Support. Electronic classroom

Reference.
- A1-H53BE-NFM-000
- A1-H53BE-NFM-900

CBT 0130 1.0 * B,CI,FRSIE CBT

Goal. Introduce the CCUI to the functionality of cargo securing equipment and how to properly utilize the equipment to secure cargo.

Requirement.
Introduce:
- Functionality of cargo securing equipment
- Proper use of cargo securing equipment
- Winch operation and procedures
- Cargo ramp and flippers operations and procedures

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of:

Functionality of cargo securing equipment
Proper use of cargo securing equipment
Winch operation and procedures
Cargo ramp and flippers operations and procedures

Prerequisite. CBT 0103

External Syllabus Support. Electronic classroom

Reference.
A1-H53BE-CLG-000

CBT 0190 1.0 * B,CI,FRSIE CBT

Goal. Familiarize the CCUI with the basic function of the Bearing Monitor System (BMS).

Requirement.
Introduce:
Component location
System operation

Performance Standard.
CCUI is responsible for completing statements to demonstrate understanding of BMS:
Component location
System operation

External Syllabus Support. Electronic classroom

Reference.
A1-H53BE-NFM-000
A1-H53BE-NFM-900
A1-H53CE-VIB-000

4. Academic Training

a. Purpose. To provide the CCUI with a basic understanding of the procedures required to perform a CH-53E Daily Inspection and prepare the CCUI and helicopter for flight.

b. General. Instructors shall complete all applicable 0500 stage events in this phase of training prior to performing instructor duties.

c. Crew Requirement. CCI/CCUI.

ACAD 0200 2.0 * B,CI,FRSIE CLSRM

Goal. Provide Course Introduction Brief to ensure (CCUI) understands the expectations and requisite knowledge required to complete the CH-53 Crew Chief Training School Course.

Requirement.
Discuss:
Course overview and design
Study guide
Class schedule
Squadron check-in
Academic handouts

Course References
Expectations of CCUI
Schoolhouse procedures

Demonstrate:
Classroom computer access
Basic operation of ADL

Performance Standard.
CCUI is responsible for knowledge of:
Course overview and design
Study guide
Class schedule
Squadron check-in
Academic handouts
Course References
Expectations of CCUI
Schoolhouse procedures

CCUI is responsible for observing while Instructor performs:
Classroom computer access
Basic operation of ADL

Prerequisite. Squadron operations department check-in.

Reference. HMT-302 Marine Enlisted Aircrew Training SOP

ACAD 0201 1.5 * B,R,MR,SCE,CI,FRSIE CLSRM

Goal. The CCUI understands the procedures, common terminology and hand and arm signals for promoting good safety during all facets of training, both in the air and on the ground. Be familiar with basic ground handling and aircraft movement procedures and safety protocols.

Requirement.
Discuss:
Training time out (TTO)
Drop on Request (DOR)
“Knock it off”
Ground handling procedures
Fire extinguisher safety considerations
Aircraft movement
Required personnel and positions during aircraft movement
Basic hand and arm signals
Hazard areas on and around aircraft.
All five safety provisions installed or complied with

Performance Standard.
CCUI is responsible for knowledge of procedures required for:
Training time out (TTO)
Drop on Request (DOR)
“Knock it off”
Ground handling procedures
Fire extinguisher safety considerations
Aircraft movement
Required personnel and positions during aircraft movement

Basic hand and arm signals
Hazard areas on and around aircraft.
All five safety provisions installed or complied with

Prerequisite. CBT 0103

Reference.
A1-H53CE-GAI-000
A1-H53BE-NFM-000

ACAD 0202 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, Theory of Operation and Daily inspection criteria for the aircraft interior.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
Cockpit section
Pilot and Copilot seats
Cabin section

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
Cockpit section
Pilot and Copilot seats
Cabin section

Prerequisite. ACAD 0201

Reference.
A1-H53CE-MRC-200
A1-H53CE-570-100
A1-H53CE-600-100
A1-H53CE-700-100
A1-H53CE-760-100
A1-H53CE-500-100

ACAD 0203 1.5 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the electronics compartments, Countermeasure systems, Spot lights, and FLIR Ball and boom.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
Right electronics compartment
Nose electronics compartment
Left side electronics compartments
Countermeasure systems
Spot lights
FLIR Ball and boom

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
- Right electronics compartment
- Nose electronics compartment
- Left side electronics compartments
- Countermeasure systems
- Spot lights
- FLIR Ball and boom

Prerequisite. ACAD 0201

Reference.
- A1-H53CE-MRC-200
- A1-H53CE-570-100
- A1-H53CE-600-100
- A1-H53CE-700-100
- A1-H53CE-760-100
- A1-H53CE-500-100

ACAD 0204 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for landing gear and all associated lines and hardware.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
- Nose gear door
- Nose landing gear
- Pitot static drain lines
- Emergency landing gear extension cable
- Cargo release linkage
- Pilot and Copilot moveable spotlight
- Main Landing Gear (MLG)
- MLG brake assembly
- Landing gear servicing

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
- Nose gear door
- Nose landing gear
- Pitot static drain lines
- Emergency landing gear extension cable
- Cargo release linkage
- Pilot and Copilot moveable spotlight
- Main Landing Gear (MLG)
- MLG brake assembly
- Landing gear servicing

Prerequisite. ACAD 0201

Reference.
- A1-H53CE-MRC-200
- A1-H53CE-130-100

ACAD 0205 1.5 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the refuel panel, aux tanks, and pylons to include sponsons and left and right fuselage.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
- Aerial refueling probe
- Pressure refueling panel
- Auxiliary fuel tank and pylon assembly
- Auxiliary fuel tank support
- Sponson
- Fuselage

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
- Aerial refueling probe
- Pressure refueling panel
- Auxiliary fuel tank and pylon assembly
- Auxiliary fuel tank support
- Sponson
- Fuselage

Prerequisite. ACAD 0201

Reference.
- A1-H53CE-MRC-200
- A1-H53CE-110-100
- A1-H53CE-460-100

ACAD 0206 1.5 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for all components associated with engines, nose gear boxes, and EAPS.
Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
- Engine
- EAPS
- NGB

Performance Standard.
CCUI is responsible for knowledge of nomenclature, theories of operation, and procedures required to perform a daily inspection of:
- Engine
- EAPS
- NGB

Prerequisite. ACAD 0201

Reference.
A1-H53CE-MRC-200
A1-H53CE-220-100

ACAD 0207 1.5 * B,CI,FRSIE CLSRM

Goal Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the aft main rotor pylon.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
Aft main rotor pylon

Performance Standard.
CCUI is responsible for knowledge of nomenclature, theories of operation, and procedures required to perform a daily inspection of:
Aft main rotor pylon

Prerequisite. ACAD 0201

Reference.
A1-H53CE-MRC-200
A1-H53CE-110-100

ACAD 0208 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the tail drive shafts and disconnect coupling.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
Tail driveshaft viscous damper assemblies
Disconnect coupling

Discuss cleaning and greasing:
Disconnect coupling

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
Tail driveshaft viscous damper assemblies
Disconnect coupling

CCUI is responsible for understanding procedures required to Clean and grease:
Disconnect coupling

Prerequisite. ACAD 0201

Reference.
A1-H53CE-MRC-200
A1-H53CE-260-100

ACAD 0209 1.5 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the Tail skid, Intermediate gearbox, Tail gearbox, tail rotor servo, Tail pylon and stabilizer structure.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
- Tail pylon and stabilizer structure
- Tail gearbox
- Intermediate gearbox
- Tail skid
- tail rotor servo

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
- Tail pylon and stabilizer structure
- Tail gearbox
- Intermediate gearbox
- Tail skid
- tail rotor servo

Prerequisite. ACAD 0201

Reference.
- A1-H53CE-MRC-200
- A1-H53CE-260-100

ACAD 0210 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the tail rotor head and tail rotor blades.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
- Tail rotor head
- Tail rotor blades

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
- Tail rotor head
- Tail rotor blades

Prerequisite. ACAD 0201

Reference.
- A1-H53CE-MRC-200
- A1-H53CE-150-100

ACAD 0211 1.5 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the Main gearbox, Main rotor primary servocylinders and control rods, and Flight control mixer unit.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
- Main gearbox
- Main rotor primary servocylinders and control rods
- Flight control mixer unit

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
- Main gearbox
- Main rotor primary servocylinders and control rods
- Flight control mixer unit

Prerequisite. ACAD 0201

Reference.
- A1-H53CE-MRC-200
- A1-H53CE-260-100
- A1-H53CE-140-100

ACAD 0212 1.5 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the 2nd stage and utility hydraulic systems and engine start hydraulic components.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
- 2nd stage hydraulic system
- Utility hydraulic system
- Engine start hydraulic components

Discuss servicing:
- Hydraulic systems

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
- 2nd stage hydraulic system
- Utility hydraulic system
- Engine start hydraulic components

Prerequisite. ACAD 0201

Reference.
- A1-H53CE-MRC-200
- A1-H53CE-400-100

ACAD 0213 1.5 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the forward hydraulic and auxiliary power plant compartment and Discuss the inspection criteria for all components.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
- Accessory gearbox
- Auxiliary power plant
- Fire extinguishers
- Heater
- Rotorhead light
- Access panels

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
- Accessory gearbox
- Auxiliary power plant
- Fire extinguishers
- Heater
- Rotorhead light
- Access panels

Prerequisite. ACAD 0201

Reference.
- A1-H53CE-MRC-200
- A1-H53CE-400-100
- A1-H53CE-110-100
- A1-H53CE-260-100

ACAD 0214 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the main rotor head and main rotor blades.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
- Main rotor head
- Main rotor blades

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
- Main rotor head
- Main rotor blades

Prerequisite. ACAD 0201

Reference.
A1-H53CE-MRC-200
A1-H53CE-150-100

ACAD 0215 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and Daily inspection criteria for the mission systems.

Requirement.
Discuss nomenclature, theories of operation and inspection criteria of:
Single-point cargo hook and pendant
Two-point suspension system
Dual point cargo pendant
Aircrew portable pendant control

Discuss performing:

Single-point cargo system operational check and hook jettison test
Two point cargo system and CG/hook load indicating system operational checks
Operational check of cargo winch
Operational check of utility hoist

Discuss:
Ensuring proper aircraft configuration

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures required to perform a daily inspection of:
Single-point cargo hook and pendant
Two-point suspension system
Dual point cargo pendant
Aircrew portable pendant control

CCUI is responsible for knowledge of procedures required to perform operation of:
Single-point cargo system operational check and hook jettison test
Two point cargo system and CG/hook load indicating system operational checks
Operational check of cargo winch
Operational check of utility hoist

CCUI is responsible for understanding procedures required to:
Ensuring proper aircraft configuration

Prerequisite. ACAD 0201, CBT 0130

Reference.
A1-H53CE-MRC-200
A1-H53CE-110-100

ACAD 0216 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the inspection criteria for performing a turnaround inspection.

Requirement.
Discuss:
Turnaround inspection criteria
Turnaround inspection
Fuel sampling

Performance Standard.
CCUI is responsible for knowledge of procedures required to perform:
Turnaround inspection
Fuel samples

Prerequisite. ACAD 0201

Reference.
A1-H53CE-MRC-200

ACAD 0217 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with the procedures for refueling, and defueling the CH-53.

Requirement.
Discuss:
Refuel/de-fuel truck considerations
Safety precautions, fire bottle and fuel spills
Hand and arm signals
APP operations

Performance Standard.
CCUI is responsible for knowledge of procedures required to perform:
Refuel/de-fuel truck considerations
Safety precautions, fire bottle and fuel spills
Hand and arm signals
APP operations

Prerequisite. ACAD 0201

Reference.
A1-H53CE-GAI-000
A1-H53BE-NFM-000

ACAD 0218 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with the procedures APP operation

Requirement.
Discuss:
APP preflight/inspection
Cockpit preflight/inspection
Safety precautions
Fire bottle procedures
Hand and arm signals
APP operation

Performance Standard.
CCUI is responsible for knowledge of procedures required to perform:

APP preflight/inspection
Cockpit preflight/inspection
Safety precautions
Fire bottle procedures
Hand and arm signals
APP operation

Prerequisite. CBT 0118, ACAD 0201

Reference.
A1-H53CE-220-100
A1-H53CE-MRC-200
A1-H53BE-NFM-000

ACAD 0219 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, and theory of operation of the flight controls and of the AFCS.

Requirement.
Discuss nomenclature, and theories of operation:
Collective, yaw and cyclic control functions
AFCS principles of operation

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation:
Collective, yaw and cyclic control functions
AFCS principles of operation

Prerequisite. CBT 0119, ACAD 0201

Reference.
A1-H53CE-MRC-200
A1-H53BE-NFM-000
A1-H53CE-570-100
A1-H53CE-140-100

ACAD 0220 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize CCUI with the nomenclature, theory of operation and procedures for blade fold and spread and the pylon fold and spread.

Requirement.
Discuss nomenclature, theories of operation and procedures for:
Safety considerations.
Blade fold procedures
Blade spread procedures
Pylon fold procedures
Pylon spread procedures

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation, and procedures for:
Safety considerations.
Blade fold procedures
Blade spread procedures

Pylon fold procedures
Pylon spread procedures

Prerequisite. CBT 0120, ACAD 0201

Reference.
A1-H53CE-GAI-000
A1-H53BE-NFM-000

ACAD 0221 2.5 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with the fundamentals of security integrity, FOD, and leakage and introduce the responsibilities associated with the plane captain program.

Requirement.
Discuss:
Fundamentals and qualities that make up a plane captain
Plane captain program

Performance Standard.
CCUI is responsible for knowledge of procedures required for:
Fundamentals and qualities that make up a plane captain
Plane captain program

Prerequisite. ACAD 0201

Reference. COMNAVFORINST 4790.2

ACAD 0222 4.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with NATOPS flight procedures and Local standard operating procedures for flight.

Requirement.
Discuss:
Scheduling procedures
Air Crew areas of responsibility
Standard terminology
Stages of flight
Emergency procedures

Performance Standard.
CCUI is responsible for knowledge of:
Scheduling procedures
Air Crew areas of responsibility
Standard terminology
Stages of flight
Emergency procedures

Prerequisite. ACAD 0201

Reference.
A1-H53BE-NFM-000
Squadron Flight SOPs

ACAD 0223 4.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with the preflight/post flight inspection criteria for required gear and proper wear of flight equipment.

Requirement.
Discuss:
- Preflight inspection of required gear
- Post-flight inspection of required gear
- Proper wear of flight equipment

Performance Standard.
CCUI is responsible for knowledge of:
- Preflight inspection of required gear
- Post-flight inspection of required gear
- Proper wear of flight equipment

Prerequisite. ACAD 0201

Reference.
A1-H53BE-NFM-000

ACAD 0224 4.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with the proper CH-53E egress procedures.

Requirement.
Discuss:
- Water egress procedures
- Proper egress procedures
- CH-53E egress points

Performance Standard.
CCUI is responsible for knowledge of:
- Water egress procedures
- Proper egress procedures
- CH-53E egress points

Prerequisite. ACAD 0201

Reference.
A1-H53BE-NFM-000

ACAD 0225 2.5 * B,R,MR,SCE,CI,FRSIE CLSRM

Goal. Introduce CRM.

Requirement.
Discuss:
- Decision making
- Assertiveness
- Mission Analysis
- Communication
- Leadership
- Adaptability/Flexibility
- Situational Awareness
- Case Study

Performance Standard.
CCUI is responsible for knowledge of:
- Decision making
- Assertiveness
- Mission Analysis
- Communication
- Leadership
- Adaptability/Flexibility
- Situational Awareness

Reference. OPNAV INST 1542.7C

ACAD 0226 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with common terminology and ICS procedures during aircraft start up and shut down.

Requirement.
Discuss:
- Safety considerations
- Fire bottle position
- Hand and arm signals
- Start up checklist
- Shutdown checklist
- Common terminology

Performance Standard.
CCUI is responsible for knowledge of:
- Safety considerations
- Fire bottle position
- Hand and arm signals
- Start up checklist
- Shutdown checklist
- Common terminology

Prerequisite. CBT 0126, ACAD 0201, ACAD 0222

Reference.
- A1-H53BE-NFM-000
- A1-H53BE-NFM-900

ACAD 0227 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with single point engine plot and operational power check procedures.

Requirement.
Discuss:
- Single point engine plot procedures
- Operational power check procedures
- Utilizing engine plot charts

Performance Standard.
CCUI is responsible for knowledge of procedures required to perform:
- Single point engine plot procedures
- Operational power check procedures

Prerequisite. ACAD 0201

Reference.
A1-H53BE-NFM-000

ACAD 0228 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with the content encompassed within the training and readiness manuals.

Requirement.
Discuss:
Content of the program manual NAVMC 3500
Content of the applicable 3500 series manual

Performance Standard.
CCUI is responsible for knowledge of:
Content of the program manual NAVMC 3500
Content of the applicable 3500 series manual

Reference.
NAVMC 3500 series manuals

ACAD 0229 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI the nomenclature and Theory of Operation and demonstrate handling procedures of the .50 caliber machine gun.

Requirement.

Instructor:
XM-218 AGI required to give class on the XM-218 .50 cal machine gun.
GAU-21 AGI or TGI required to give class on the GAU-21 .50 cal machine gun.

Discuss:
Weapon nomenclature
Basic assembly
Head space and timing
Weapons checklist
Troubleshooting procedures
Ammunition

Performance Standard.
CCUI is responsible for knowledge of:
Weapon nomenclature
Basic assembly
Head space and timing
Weapons checklist
Troubleshooting procedures
Ammunition

Reference.
MAWTS-1 Aerial Gunnery Manual

ACAD 0230 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with the functionality of cargo securing equipment,how to properly utilize the equipment to secure cargo and load aircraft utilizing proper weight and balance and center of gravity techniques.

Requirement.
Discuss nomenclature, theories of operation and operation of:
- Cargo securing equipment
- Proper use of cargo securing equipment
- Winch operation and procedures
- Cargo ramp and flippers operations and procedures
- Calculate weight and balance
- Load techniques for proper center of gravity preservation

Performance Standard.
CCUI is responsible for knowledge of nomenclature, Theories of Operation and operation of:
- Cargo securing equipment
- Proper use of cargo securing equipment
- Winch operation and procedures
- Cargo ramp and flippers operations and procedures
- Calculate weight and balance
- Load techniques for proper center of gravity preservation

Prerequisite. CBT 0130, ACAD 0201, ACAD 0215

Reference.
- A1-H53CE-CLG-000
- A1-H53CE-GAI-000
- A1-H53BE-NFM-000

ACAD 0270 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with external transportation of cargo, standard terminology, and operating with a Helicopter Support Team (HST).

Requirement.
Discuss:
- Single point external cargo operations
- Dual point external cargo operations
- Emergency jettison of cargo
- Safety considerations while operating with HST

Performance Standard.
CCUI is responsible for knowledge of procedures required to perform:
- Single point external cargo operations
- Dual point external cargo operations
- Emergency jettison of cargo
- Safety considerations while operating with HST

Prerequisite. ACAD 0201

Reference.
- A1-H53BE-NFM-000
- A1-H53CE-110-100

ACAD 0280 1.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with terrain flight maneuvers and common terminology.

Requirement.
Discuss:
- 3 types of terrain flight
- Terrain flight maneuvers
- Aircraft clearances
- Common terminology

Performance Standard.
CCUI is responsible for knowledge of procedures required to perform:
- 3 types of terrain flight
- Terrain flight maneuvers
- Aircraft clearances
- Common terminology

Prerequisite. ACAD 0201

Reference.
- A1-H53BE-NFM-000
- ANTTP 3-22.3-CH-53
- MAWTS-1 Crew Chief Academic Support Package

ACAD 0290 2.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with the Vibration Analysis Test System (VATS) and Aircraft Track and Balance System (ATABS

Requirement.
Discuss:
- Component nomenclature
- Systems operation
- Installation of system components

Performance Standard.
CCUI is responsible for knowledge of:
- Component nomenclature
- Systems operation
- Installation of system components

Prerequisite. ACAD 0227

Reference.
- A1-H53CE-VIB-000

ACAD 0291 2.0 * B,CI,FRSIE CLSRM

Goal. Familiarize the CCUI with the Intergraded Maintenance Diagnostic System (IMDS).

Requirement.
Discuss:
- Component nomenclature
- Component location
- System operation

Performance Standard.
CCUI is responsible for knowledge of:
Component nomenclature
Component location
System operation

Prerequisite. ACAD 0227

Reference.
A1-H53CE-580-10

5. LAB Training

a. Purpose – To provide the CCUI with basic skills required to perform CH-53E Daily and Turnaround Inspections and prepare the CCUI and helicopter for flight.

b. General – Instructors shall:

(1) Complete all applicable 0500 stage events in this phase of training prior to performing instructor duties.

(2) Be a designated CH-53E Plane Captain.

c. Crew Requirement – CCI/CCUI.

LAB 0301 2.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required for promoting safe procedures and considerations when conducting ground operations on and/or around the aircraft.

Requirement.
Discuss:
Procedures for entering/exiting rotor arc
Radioactive components
Engine high exhaust danger areas
Fire bottle considerations during APP and engine start
Movement of aircraft

Introduce:
Entering/exiting rotor arc
Movement of aircraft

Performance Standard.
CCUI is responsible for recognizing and avoiding:
Rotor arc hazard areas
Procedures for entering/exiting rotor arc
Radioactive components
Engine high exhaust danger areas
Fire bottle considerations during APP and engine start

CCUI is responsible for performing procedures required for:
Movement of aircraft Hand and arm signals
Entering/exiting rotor arc

Prerequisite. ACAD 0201

Reference.
A1-H53CE-MRC-200
A1-H53CE-GAI-000
A1-H53BE-NFM-000

LAB 0302 2.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the aircraft interior.

Requirement.
Introduce inspection of:
Cockpit section
Pilot and Copilot seats
Cabin Section

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Cockpit section
Pilot and Copilot seats
Cabin Section

Prerequisite. ACAD 0202

Reference.
A1-H53CE-MRC-200

LAB 0303 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the electronics compartments, Countermeasure systems, and FLIR ball and boom.

Requirement.
Introduce inspection of:
Right electronics compartment
Nose electronics compartment
Left side electronics compartments
Countermeasures systems
Spot Light
FLIR Ball and boom

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Right electronics compartment
Nose electronics compartment
Left side electronics compartments
Countermeasures systems
Spot Light
FLIR Ball and boom

Prerequisite. ACAD 0203

Reference.
A1-H53CE-MRC-200

LAB 0304 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the landing gear and associated components.

Requirement.

Introduce inspection of:
- Nose gear door
- Nose landing gear
- Pitot static drain lines
- Emergency landing gear extension cable
- Cargo release linkage
- Pilot and Copilot moveable spotlight
- Main Landing Gear (MLG)
- MLG brake assembly
- Landing gear servicing

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
- Nose gear door
- Nose landing gear
- Pitot static drain lines
- Emergency landing gear extension cable
- Cargo release linkage
- Pilot and Copilot moveable spotlight
- Main Landing Gear (MLG)
- MLG brake assembly

CCUI is responsible for knowledge of:
- Landing gear servicing

Prerequisite. ACAD 0204

Reference.
- A1-H53CE-MRC-200

LAB 0305 1.0 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the refueling panel, auxiliary fuel tank and pylons assemblies, sponsons, and aircraft fuselage.

Requirement.
Introduce inspection of:
- Aerial refueling probe
- Pressure refueling panel
- Auxiliary fuel tank and pylon assembly
- Auxiliary fuel tank support
- Sponson
- Fuselage

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
- Aerial refueling probe

Pressure refueling panel
Auxiliary fuel tank and pylon assembly
Auxiliary fuel tank support
Sponson
Fuselage

Prerequisite. ACAD 0205

Reference.
A1-H53CE-MRC-200

LAB 0306 2.0 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the engines, nose gear boxes and EAPS.

Requirement.
Introduce inspection of:
Engine
EAPS
NGB

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Engine
EAPS
NGB

Prerequisite. ACAD 0206

Reference.
A1-H53CE-MRC-200

LAB 0307 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the aft main rotor pylon.

Requirement.
Introduce inspection of:
Aft main rotor pylon

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Aft main rotor pylon

Prerequisite. ACAD 0207

Reference.
A1-H53CE-MRC-200

LAB 0308 1.0 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the drive shafts and disconnect coupling components.

Requirement.
Introduce inspection of:
Tail driveshaft viscous damper assemblies
Disconnect coupling for wear
Introduce cleaning and greasing:
Disconnect coupling

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Tail driveshaft viscous damper assemblies
Disconnect coupling for wear

CCUI is responsible for performing procedures required to:
Clean and grease disconnect coupling

Prerequisite. ACAD 0208

Reference.
A1-H53CE-MRC-200

LAB 0309 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the tail skid, IGB, TGB, pylon, stabilizer, and tail rotor servo.

Requirement.
Introduce inspection of:
Tail pylon and stabilizer structure
Tail gearbox
Intermediate gearbox
Tail skid
Tail rotor servo

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Tail pylon and stabilizer structure
Tail gearbox
Intermediate gearbox
Tail skid
Tail rotor servo

Prerequisite. ACAD 0209

Reference.
A1-H53CE-MRC-200

LAB 0310 1.0 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the tail rotor head and tail rotor blades.

Requirement.
Introduce inspection of:
Tail rotor head
Tail rotor blades

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Tail rotor head
Tail rotor blades

Prerequisite. ACAD 0210

Reference.
A1-H53CE-MRC-200

LAB 0311 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the Main gearbox, Main rotor primary servocylinders and control rods, and Flight control mixer unit.

Requirement.
Introduce inspection of:
Main gearbox
Main rotor primary servocylinders and control rods
Flight control mixer unit

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Main gearbox
Main rotor primary servocylinders and control rods
Flight control mixer unit

Prerequisite. ACAD 0211

Reference.
A1-H53CE-MRC-200

LAB 0312 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the 2nd stage and utility hydraulic systems and engine start hydraulic components.

Requirement.
Introduce inspection of:
2nd stage hydraulic system
Utility hydraulic system
Engine start hydraulic components

Introduce servicing:
Hydraulic systems

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
2nd stage hydraulic system
Utility hydraulic system
Engine start hydraulic components

CCUI is responsible for performing procedures required to service:
Hydraulic systems

Prerequisite. ACAD 0212

Reference.
A1-H53CE-MRC-200

LAB 0313 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the forward hydraulic & APP compartment, and associated components.

Requirement.
Introduce inspection of:
Accessory gearbox
Auxiliary power plant
Fire extinguishers
Heater
Rotorhead light
Access panels

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Accessory gearbox
Auxiliary power plant
Fire extinguishers
Heater
Rotorhead light
Access panels

Prerequisite. ACAD 0213

Reference.
A1-H53CE-MRC-200

LAB 0314 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of the main rotor head and main rotor blades.

Requirement.
Introduce inspection of:
Main rotor head
Main rotor blades

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Main rotor head
Main rotor blades

Prerequisite. ACAD 0214

Reference.
A1-H53CE-MRC-200

LAB 0315 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a daily inspection of mission systems and ability to configure aircraft for assigned missions.

Requirement.
Introduce inspection of:
Single-point cargo hook and pendant
Two-point suspension system
Dual point cargo pendant
Aircrew portable pendant control

Introduce performing:
Single-point cargo system operational check and hook jettison test
Two point cargo system and CG/hook load indicating system operational checks
Operational check of cargo winch
Operational check of utility hoist

Demonstrate:
Ensuring proper aircraft configuration

Performance Standard.
CCUI is responsible for performing procedures required to inspect:
Single-point cargo hook and pendant
Two-point suspension system
Dual point cargo pendant
Aircrew portable pendant control

CCUI is responsible for performing:
Single-point cargo system operational check and hook jettison test
Two point cargo system and CG/hook load indicating system operational checks
Operational check of cargo winch
Operational check of utility hoist

CCUI is responsible for:
Ensuring proper aircraft configuration

Prerequisite. ACAD 0215

Reference.
A1-H53CE-MRC-200

LAB 0316 1.5 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required to perform a turnaround inspection.
Requirement.
Introduce:
Turnaround inspection
Fuel sample procedures

Performance Standard.
CCUI is responsible for performing:
Turnaround inspection
Fuel samples

Prerequisite. ACAD 0216

External Syllabus Support. Fuel sample trainer

Reference.
A1-H53CE-MRC-100

LAB 0317 1.0 * B,CI,FRISE S/A

Goal. Provide the CCUI with the fundamental skills required to refuel and/or defuel the aircraft.

Requirement.
Introduce:
Refuel/Defuel truck considerations
Safety precautions, fire bottle positioning, and fuel spills
Hand and arm signals
APP operations

Performance Standard.

CCUI is responsible for recognizing hazards and taking appropriate actions for:
Refuel/Defuel truck considerations
Safety precautions, fire bottle and fuel spills

CCUI is responsible for performing:
Hand and arm signals
APP operations

Prerequisite. ACAD 0217

Reference.
A1-H53CE-GAI-000
A1-H53BE-NFM-900

LAB 0318 1.0 * B,CI,FRISE S/A

Goal. Provide the CCUI with the fundamental skills required for APP operation.

Requirement.
Introduce:
APP compartment preflight/inspection
Cockpit preflight/inspection
Safety precautions
Fire bottle procedures
Hand and arm signals
APP operation

Performance Standard.
CCUI is responsible for:
Following applicable Safety precautions

CCUI is responsible for performing:
APP compartment preflight/inspection
Cockpit preflight/inspection
Fire bottle procedures
Hand and arm signals
APP operation

Prerequisite. ACAD 0218

Reference.
A1-H53CE-GAI-000
A1-H53BE-NFM-900

LAB 0319 1.0 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required for operation of the AFCS.

Requirement.
Introduce:
Collective and cyclic control functions
AFCS operation

Performance Standard.
CCUI is responsible for performing:
Collective and cyclic control functions
AFCS operation

Prerequisite. ACAD 0219

Reference.
A1-H53CE-MRC-200
A1-H53CE-GAI-000
A1-H53BE-NFM-000

LAB 0321 4.0 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required performing a Daily inspection.

Requirement.
Discuss:
Fundamentals and qualities that make up a plane captain.
Plane captain program.

Practice:
Performing Daily inspection

Performance Standard.
CCUI is responsible for:
Displaying knowledge of Plane caption program
Following appropriate safety practices
Performing Daily inspection

Prerequisites. ACAD 0221

Reference.
COMNAVFORINST 4790.2
A1-H53CE-MRC-200

LAB 0322 1.0 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required for performing a Turnaround inspection.

Requirement.
Discuss:
Fundamentals and qualities that make up a plane captain.
Plane captain program.

Practice:
Performing Turnaround inspection

Performance Standard.
CCUI is responsible for:
Displaying knowledge of Plane caption program
Following appropriate safety practices
Performing Turnaround inspection

Prerequisites. ACAD 0222

External Syllabus Support. Fuel sample trainer

Reference.
COMNAVFORINST 4790.2
A1-H53CE-MRC-100

LAB 0323 1.0 * B,CI,FRSIE S/A

Goal. Provide the CCUI with the fundamental skills required for preflight/post flight inspection and proper wear of required flight equipment.

Requirement.
Introduce:
Preflight inspection of required gear
Post-flight inspection of required gear
Proper wear of flight equipment

Performance Standard.
CCUI is responsible for:
Preflight inspection of required gear
Post-flight inspection of required gear
Proper wear of flight equipment

Prerequisite. ACAD 0223

Reference.
A1-H53BE-NFM-000

LAB 0324 1.5 * B,CI,FRSIE S/A

Goal. Discuss and demonstrate the proper egress procedures.

Requirement.
Discuss:
Water egress procedures
Proper egress procedures

Introduce:
Proper egress procedures

Performance Standard.
CCUI is responsible for performing:
Proper egress procedures

Prerequisite. ACAD 0224 and LAB 0323

Reference.
A1-H53BE-NFM-000

6. Academic Stage (CH-53D Only)

a. Purpose – To provide the CCUI with a basic understanding of CH-53D systems and operating characteristics.

b. General – Instructors shall have completed all applicable 0500 stage events in this phase of training prior to performing instructor duties. Instructors shall be designated CSII prior to performing instructor duties.

c. Crew Requirement – CCI/CCUI.

ACAD 0400 25.5 * SCD CBT

Goal. Complete all CH-53D CBTs

Requirement. Per MAG-24 Stan SOP

External Syllabus Support. Electronic classroom

LAB 0421 4.0 * B,CI S/A

Goal. Provide the CCUI with the fundamental skills required performing a Daily inspection on a CH-53D.

Requirement.
Discuss:
Fundamentals and qualities that make up a plane captain.
Plane captain program.

Practice:
Performing Daily inspection

Performance Standard.
CCUI is responsible for:
Displaying knowledge of Plane caption program
Following appropriate safety practices
Performing Daily inspection

Prerequisites. ACAD 0400

Reference.
COMNAVFORINST 4790.2

LAB 0422 1.0 * B,CI S/A

Goal. Provide the CCUI with the fundamental skills required for performing a Turnaround inspection on a CH-53D.

Requirement.
Discuss:
Fundamentals and qualities that make up a plane captain.
Plane captain program.

Practice:
Performing Turnaround inspection

Performance Standard.
CCUI is responsible for:
Displaying knowledge of Plane caption program
Following appropriate safety practices
Performing Turnaround inspection

Prerequisites. ACAD 0400

Reference.
COMNAVFORINST 4790.2

7. Instructor Events

a. Purpose – To ensure the CCI possesses the requisite knowledge and technical skills required to instruct CH-53 Aircrew Core Skill Introduction FRS Academic Phase training events.

b. General

(1) CCIUT may complete these events in conjunction with the CCUI CH-53 Aircrew Core Skill Introduction FRS Academic Phase syllabus.

(2) CCIUT shall be evaluated by a qualified CH-53 Aircrew Core Skill Introduction FRS Instructors prior to performing instructor duties.

c. Crew Requirement – CCI/CCIUT.

FRISE 0500 2.0 * CI,FRSIE CLSRM

Goal. Provide Crew Chief Instructor Under Training (CCIUT) with the skills required to conduct a Computer Aided Instruction (CAI) period of instruction.

Requirement.
Introduce:
Conducting CAI

Performance Standard.
CCIUT is responsible for:
Properly conducting a CAI period of instruction.

Prerequisite.
Successfully complete Formal School Instructor Course (FSIC) and Basic Instructor Training Course (BITC).

External Syllabus Support. Electronic classroom

Reference.
HMT-302 Marine Enlisted Aircrew Training SOP

FRSIE 0501 2.0 * CI,FRSIE S/A

Goal. Provide CCIUT with the skills required to conduct a LAB period of instruction.

Requirement.
Introduce:
Conducting LAB

Performance Standard.
CCIUT is responsible for:
Properly conducting a LAB period of instruction.

Prerequisite. INST 0500

Electronic classroom
HMT-302 Marine Enlisted Aircrew Training SOP

FRSIE 0502 2.0 * CI,FRSIE CLSRM or S/A

Goal. Provide CCIUT with the opportunity to demonstrate mastery of instructional skills.

Requirement.
Review:
CCIUTs ability to properly conduct period of instruction

Performance Standard.
CCIUT is responsible for:
Demonstrating ability to properly conduct period of instruction.

Prerequisite. INST 0501

Electronic classroom
HMT-302 Marine Enlisted Aircrew Training SOP

FRSIE 0503 2.0 * CI,FRSIE CLSRM or S/A

Goal. Review Crew Chief Instructors (CCI) ability to conduct period of instruction.

Requirement.
Review:
Instructional techniques

Performance Standard.
CCIUT is responsible for:
Demonstrating proper instructional techniques by properly conducting a period of instruction.

Prerequisite. INST 0502

Electronic classroom

HMT-302 Marine Enlisted Aircrew Training SOP

8. Evaluation Events

a. Purpose – To ensure CCUI possess the requisite knowledge and technical skills required perform CH-53 Plane Captain duties.

b. General. CCUI shall complete these events in conjunction with COMNAVAIRFORINST 4790.2A requirements.

c. Crew Requirement – CCUI or CC.

EVAL 0600 2.0 * B,CI,FRSIE A

Goal. Provide CCUI with the opportunity to demonstrate mastery of CH-53 Plane Captain duties.

Requirement.
Review CCUIs ability to properly perform:
Daily Inspection
Turnaround inspection

Performance Standard.
CCUI is responsible for demonstrating ability to properly perform:
Daily Inspection
Turnaround inspection

Prerequisite. LAB 0321, LAB 0322

Reference.
A1-H53CE-MRC-200

EVAL 0601 2.0 * B,CI,FRSIE A

Goal. Review Crew Chiefs ability to perform CH-53 Plane Captain duties.

Requirement.
Review Crew Chief ability to properly perform:
Daily Inspection
Turnaround inspection

Performance Standard.
Crew Chief is responsible for demonstrating ability to properly perform:
Daily Inspection
Turnaround inspection

Prerequisite. EVAL 0600

Reference.
A1-H53CE-MRC-200

310. CORE SKILL INTRODUCTION PHASE (1000)

1. General

a. Prior to starting 1000 phase, aircrew must complete: flight physical, Naval Aviation Water Survival Training Program (NAWSTP) and Naval Aviation Physiology Training Program (NAPTP).

b. Stages

1100-FAM
1200-NFAM
1300-INT
1400-N/A
1500-FORM
1600-CAL
1700-EXT
1800-TERF
1900-REV/CSIX

2. Familiarization

a. Purpose – To familiarize Aircrew with CH-53 operations and emergency procedures.

b. General

(1) Aircrew (CCUI) may fly these events in conjunction with the Pilot syllabus.

(2) Instructors (CCI) shall be AGI for FAM-1113.

c. Crew Requirement – CCI/CCUI.

d. Academic Training

(1) Instructor led classroom instruction on applicable publications and directives.

(2) Crew Resource Management class.

SFAM-1100 1.5 * B,SCD 1 CH-53 A/S D

Goal Practice aircrew duties part 1

Requirement

Discuss:
Crew Resource Management (CRM) principles
Immediate dangerous hazards
Concise recommendations of safety concerns
Post Auxiliary Powerplant (APP) start
Blade/pylon spread procedures
Starting engines/rotors checks
Bearing Monitor System (BMS)
Auxiliary Powerplant (APP)

Startup safety

Practice:
Crew Resource Management (CRM)
Operational Risk Management (ORM) process
Possible hazards scanning during startup
Startup
Establishing area clear
Possible hazards
Hazards
Bearing Monitor Panel (BMP)

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite Applicable Academics

External Syllabus Support Aircrew Procedures Trainer.

FAM-1101 1.5 * B 1 CH-53 A D

Goal Practice Aircrew Duties Part 2

Requirement

Discuss:
Crew Resource Management (CRM)
Pre-taxi
Taxi
Pre-takeoff
Takeoff duties safety
Concise recommendation of safety concerns
Flight safety

Demonstrate:
Lesson pre-briefing
Training mission brief
Introduce:
Pre-taxi
Taxi
Pre-takeoff
Takeoff duties

Practice:
Starting engines/rotors checks
Starting engines/rotors
Windshield failure
Unusual attitude recovery
Emergency ground egress
Miscellaneous emergency procedure

Review:
Crew Resource Management (CRM)
Operational Risk Management (ORM) process
Post Auxiliary Powerplant (APP) start
Blade Inspection Method (BIM) panel

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite FAM-1100

FAM-1102 1.5 * B 1 CH-53 A D

Goal Introduce Emergency Procedures

Requirement

Discuss:
- Smoke and fume elimination
- Engine power loss
- Engine overspeed
- Control linkage failure
- Power turbine failure
- Engine lubrication system malfunction
- Power deterioration failure
- Engine restart during flight
- Electrical fire
- Hydraulic fire in main rotor pylon
- Primary tandem servo malfunction
- Nose Gearbox (NGB) chip locator light
- Accessory Gearbox (AGB) chip locator light

Introduce:
- Engine compartment fire(s) on the ground
- Engine post shutdown fire(s) on ground
- Engine/Auxiliary Powerplant (APP)/heater compartment fire on ground Smoke and fume elimination
- Engine power loss
- Engine overspeed
- Control linkage failure
- Power turbine failure
- Power deterioration failure
- Engine lubrication system malfunction
- Engine restart during flight
- Fire
- Electrical fire
- Hydraulic fire in main rotor pylon
- Restriction or binding in the flight controls
- Primary tandem servo malfunction
- Flight control
- Nose Gearbox (NGB) chip locator light
- Nose Gearbox (NGB) oil system failure
- Accessory Gearbox (AGB) failure
- Accessory Gearbox (AGB) chip locator light
- Assessor Gearbox (AGB) oil system failure

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite FAM-1101

FAM-1103 1.5 * B,R,SCE 1 CH-53 A D

Goal Practice Aircrew Duties Part 3

Requirement

Discuss:
- Crew Resource Management (CRM)
- Pre-landing
- Landing
- Online engine wash
- Shutdown safety
- Shutdown

Demonstrate:
- Control mission systems
- In-flight aircraft servicing
- Online engine wash procedures
- Possible hazards during shutdown
- Shutdown procedures
- Blade/pylon fold
- Shutdown monitoring procedures
- Shutdown checks

Review:
- Crew Resource Management (CRM)
- Operational Risk Management (ORM) process
- Pre-landing checks
- Landing duties
- Postflight inspection

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite FAM-1102

SFAM-1104 1.5 * B,SCD 1 CH-53 A/S D

Goal Review Aircrew duties while incorporating Crew Resource Management (CRM).

Requirement

Discuss:
- Aircrew duties
- Performing emergency procedures
- Emergency procedure safety

Review:
- Aircrew duties
- Engine emergency procedures
- Bearing Monitor System emergency procedures
- Tail rotor drive system emergency procedures
- Hydraulic system emergency procedures
- Electrical system emergency procedures

Transmission emergency procedures
Flight control emergency procedures
Fuel system emergency procedures
Landing gear emergency procedures
Fire emergency procedures
Emergency landing
Autorotative landing
Emergency descent

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite FAM-1103

External Syllabus Support Aircrew Emergency Procedures Trainer.

3. Night Familiarization

a. Purpose – To familiarize Aircrew with CH-53 operations at night.

b. General

(1) Aircrew (CCUI) may fly these events in conjunction with the pilot syllabus.

(2) Instructors (CCI) shall be an NSI or NSFI for NFAM-1201 and NFAM-1202.

c. Crew Requirement – CCI/CCUI.

d. Academic Training - Instructor led classroom instruction on applicable publications and directives.

SNFAM-1200 1.5 * B 1 CH-53 A/S NS

Goal Introduce Night Systems (NS)

Requirement

Discuss:
Crew Resource Management (CRM)
Night operation safety
Night Vision Goggles (NVGs)

Introduce:
Crew Resource Management (CRM)
Operational Risk Management (ORM)
NVGs operation
NVG goggle/degoggle procedures
Lookout duties
Monitoring procedures
In-flight support duties
Pre-landing checks
Possible hazards scanning
Flight procedures

Decision making

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite NFAM-1200 and Night Imaging and Threat Evaluation (NITE) Lab Instruction

External Syllabus Support Aircrew Procedures Trainer.

NFAM-1201 1.5 * B,R 1 CH-53 A NS

Goal Practice Night Systems (NS)

Requirement

Discuss:
- Crew Resource Management (CRM) principles
- Night operation safety
- NVG operation

Practice:
- Crew Resource Management (CRM)
- Operational Risk Management (ORM) process
- NVG operation
- NVG goggle/degoggle procedures
- Lookout duties
- Monitoring procedures
- In-flight support duties
- Pre-landing checks
- Scanning for possible hazards
- Flight procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite NFAM-1200

4. Internal Loads

a. Purpose – To introduce aircrew duties associated with loading, securing, and loading of passengers, cargo, and vehicles.

b. General

(1) Aircrew (CCUI) may fly these events in conjunction with the pilot syllabus.

(2) Instructors (CCI) shall be an NSI if Night Systems are utilized.

c. Crew Requirement – CCI/CCUI.

d. Ground Training Prerequisites – Aircrew must be familiar with the appropriate sections of the NATOPS Flight Manual and Cargo Loading Manual.

INT-1300 1.5 * B 1 CH-53 A/S (N)

Goal Introduce Cabin/Cargo Configuration/Load Planning

Requirement

Discuss:
- Potential safety hazards
- Cargo compartment
- Operation of cabin and loading equipment
- Load planning
- Cargo ramp and door
- Floor-loaded cargo onload/offload
- Operation of cabin onload/offload equipment
- Palletized cargo onload/offload
- Rolling stock cargo onload/offload procedures

Introduce:
- Cargo compartment
- Cabin and loading equipment
- Cargo preparation and loading
- Load planning
- Load plan
- Cargo ramp and door procedures
- Cargo winch operations
- Cabin onload/offload equipment
- Floor-loaded cargo onload/offload procedures
- Palletized cargo onload/offload procedures
- Rolling stock cargo onload/offload procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite FAM-1104

External Syllabus Support Aircrew Cabin Procedures Trainer.

INT-1301 1.5 * B 1 CH-53 A/S (N)

Goal Introduce Internal Passengers/Cargo Operations

Requirement

Discuss:
- Crew Resource Management (CRM)
- Troop loading onload procedures
- Troop offload procedures
- Litter onload/offload procedures
- Onload/offload safety
- Passenger/personnel onload/offload procedures
- Post-loading procedures
- Operation of cabin and offloading equipment
- Cargo offload procedures

Introduce:
- Crew Resource Management (CRM)

Operational Risk Management (ORM)
Troop loading preparation and loading procedures
Troop offload
Litter onload/offload
Passenger/personnel onload/offload
Post-loading
Cabin and offloading equipment
General cargo offload
Rolling stock cargo onload/offload procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite INT-1300

External Syllabus Support Aircrew Cabin Procedures Trainer.

5. Formation

a. Purpose – To introduce aircrew duties associated with formation flight.

b. General

(1) Aircrew (CCUI) may fly these events in conjunction with the pilot syllabus.

(2) Instructors (CCI) shall be an NSI for FORM-1501.

c. Crew Requirement – CCI/CCUI.

FORM-1500 2.0 * B 2 CH-53 A D

Goal Introduce day Formation Flight

Requirement

Discuss:
Crew Resource Management (CRM)
Formation flight procedures

Introduce:
Crew Resource Management (CRM)
Operational Risk Management (ORM)
Formation flight procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite FAM-1103

FORM-1501 2.0 * B 2 CH-53 A NS

Goal Introduce Night Systems (NS) Formation Flight

Requirement

Discuss:
Crew Resource Management (CRM)
Formation flight procedures

Introduce:
Crew Resource Management (CRM)
Operational Risk Management (ORM)
Formation flight procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite NFAM-1201 and FORM-1500

6. Confined Area Landings

a. Purpose – To introduce aircrew duties associated with Confined Area Landings (CAL).

b. General

(1) Aircrew (CCUI) may fly these events in conjunction with the CAL stage of the pilot syllabus.

(2) Instructors (CCI) shall be an NSI for CAL-1602 and CAL-1603.

c. Crew Requirement – CCI/CCUI.

CAL-1600 1.5 * B,SCD 1 CH-53 A/S D

Goal Introduce Confined Area Landings (CALs)

Requirement

Discuss:
Crew Resource Management (CRM)
Loss of visual reference during landing

Introduce:
Crew Resource Management (CRM)
Operational Risk Management (ORM)
Loss of visual reference during landing
Confined Area Landings (CALs)/takeoff procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite FAM-1104

External Syllabus Support Aircrew Procedures Trainer.

CAL-1601 1.5 * B,R,SCE,SCD 2 CH-53 A D

Goal Introduce Section Confined Area Landings (CALs)

Requirement

Discuss:
Crew Resource Management (CRM)

Introduce:
Crew Resource Management (CRM)
Operational Risk Management (ORM)
Formation landing
Loss of visual reference during landing
Confined Area Landings (CALs)/takeoff procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite FAM-1103 and CAL-1600

CAL-1602 1.5 * B 1 CH-53 A NS

Goal Introduce Night Systems (NS) Confined Area Landings (CALs)

Requirement

Discuss:
Crew Resource Management (CRM)
Introduce:
Crew Resource Management (CRM)
Operational Risk Management (ORM)
Confined Area Landings (CALs)/takeoff procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite NFAM-1201 and CAL-1601

CAL-1603 1.5 * B,R,SCE,SCD 2 CH-53 A NS

Goal Practice Night Systems (NS) Section Confined Area Landings (CALs)

Requirement

Discuss:
Crew Resource Management (CRM)

Practice:
Crew Resource Management (CRM)
Operational Risk Management (ORM)
Confined Area Landings (CALs)/takeoff procedures
Formation landing

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite CAL-1602

7. External Loads

a. Purpose – To introduce aircrew duties associated with external cargo operations.

b. General

(1) Aircrew (CCUI) may fly these events in conjunction with the external stage of the Pilot syllabus.

(2) Instructors (CCI) shall be an NSI for 1705 and 1706.

c. Crew Requirement – CCI/CCUI.

SEXT-1700 1.5 * B 1 CH-53 S D

Goal Introduce Single-Point External Operations Part 1

Requirement

Discuss:
- Commands called
- External cargo transport single-point suspension preflight
- Preflight procedures for each type of external cargo equipment safety
- Operation of external cargo equipment safety
- Single-point suspension external transport of cargo procedure
- Single-point suspension attach cargo procedure
- Single-point suspension external cargo load release procedures
- External operation safety

Introduce:
- Cabin compartment organization
- External cargo transport single-point suspension preflight procedures
- External cargo equipment
- Attach cargo (single-point suspension) procedures
- Single-point suspension external transport of cargo procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite CAL-1600

External Syllabus Support Aircrew External Procedures Trainer.

SEXT-1701 1.5 * B 1 CH-53 S D

Goal Introduce Dual-Point External Operations

Requirement

Discuss:
- Preflight procedures for each type of external cargo equipment safety
- Operation of external cargo equipment safety
- External cargo transport dual-point suspension preflight
- Dual-point suspension pre-takeoff
- External operation safety
- Commands called

Introduce:
- External cargo transport dual-point suspension preflight procedures
- Pre-takeoff (dual-point suspension) procedures
- Dual-point suspension pre-takeoff monitoring procedures
- Dual-point suspension external transport of cargo procedures
- External cargo load release (dual-point suspension) procedures
- External cargo equipment

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite EXT-1700

External Syllabus Support Aircrew External Procedures Trainer.

EXT-1703 1.5 * B,R,SCD,SCE 1 CH-53 A D

Goal Practice Single-Point External Operations Part 2

Requirement

Discuss:
- Crew Resource Management (CRM)
- External cargo equipment checks
- External cargo jettison

Practice:
- Crew Resource Management (CRM)
- Operational Risk Management (ORM)
- External cargo jettison
- Cargo systems emergency procedure
- Positive communication calls
- External transport of cargo
- External cargo load release (single-point) procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite CAL-1601 and EXT-1702

External Syllabus Support Aircrew External Procedures Trainer.

EXT-1704 1.5 * B,R,SCE 1 CH-53 A D

Goal Review Dual-Point External Operations Part 3

Requirement

Discuss:
- External operation safety
- Preflight procedures for each type of external cargo equipment safety
- External cargo transport dual-point suspension preflight
- Dual-point suspension pre-takeoff
- Operation of external cargo equipment safety
- Commands called

Review:
- External cargo transport dual-point suspension preflight procedures
- Dual-point suspension pre-takeoff monitoring procedures
- Pre-takeoff (dual-point suspension) procedures
- Dual-point suspension external transport of cargo procedures
- External cargo load release (dual-point suspension) procedures
- External cargo equipment

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite EXT-1703

EXT-1705 1.5 * B,R,SCD,SCE 1 CH-53 A NS

Goal Introduce Night Systems (NS) Single-Point External Operations

Requirement

Discuss:
- Crew Resource Management (CRM)

Introduce:
- Crew Resource Management (CRM)
- Operational Risk Management (ORM)

Single-point suspension external transport of cargo procedures
External cargo load release (single-point) procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite CAL-1603 and EXT-1704

EXT-1706 1.5 * B,R,SCE 1 CH-53 A NS

Goal Introduce Night Systems (NS) Dual-Point External Operations

Requirement

Discuss:
Crew Resource Management (CRM)

Introduce:
Crew Resource Management (CRM)
Operational Risk Management (ORM) process
External cargo load release (dual-point suspension) procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite EXT-1705

8. Terrain Flight

a. Purpose – To introduce aircrew duties associated with terrain flight.

b. General

(1) Aircrew (CCUI) may fly these events in conjunction with the terrain flight stage of the pilot syllabus.

(2) Instructors (CCI) shall be a TERFI.

c. Crew Requirement – CCI/CCUI.

TERF-1801 1.5 * B,R,SCD 1 CH-53 A D

Goal Practice Terrain Flight (TERF)

Requirement

Discuss:
Crew Resource Management (CRM) principles
Emergency considerations during Terrain Flight (TERF)

Practice:
Crew Resource Management (CRM)
Operational Risk Management (ORM)
Terrain Flight (TERF) procedures

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite CAL-1601

9. Review and Core Skill Introduction Evaluation

a. Purpose – To demonstrate proficiency in performing aircrew duties.

b. General

(1) Aircrew (CCUI) shall complete a CH-53 NATOPS Flight Manual Open and Closed Book evaluation prior to performing this stage of flight.

(2) Upon completion of this stage of flight, the aircrew will be NATOPS qualified as Crew Chief (CC) in appropriate T/M/S.

(3) Qualified Crew Chief NATOPS Instructor (CCNI),Fleet Replacement Squadron Instructor (FRSI), or Fleet Replacement Squadron Instructor - Delta (FRSI-D) shall evaluate this stage of flight.

c. Crew Requirement – FRSI/CCUI or FRSI-D/CCUI

REV-1900 2.0 * B,R,SCD,SCE 1 CH-53 A (NS)

Goal Review emergency procedures while incorporating Crew Resource Management (CRM).

Requirement

Discuss:
Performing emergency procedures
Emergency procedure safety

Review:
Engine emergency procedures
Bearing Monitor System emergency procedures
Tail rotor drive system emergency procedures
Hydraulic system emergency procedures
Electrical system emergency procedures
Transmission emergency procedures
Flight control emergency procedures
Fuel system emergency procedures
Landing gear emergency procedures
Fire emergency procedures
Emergency landing
Autorotative landing
Emergency descent

Performance Standard Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite Completion of all applicable 1000 level flights.

External Syllabus Support Aircrew Emergency Procedures Trainer.

CSIX-1901 1.5 * B,R,SCD,SCE E 1 CH-53 A (NS)

Goal Review Aircrew duties while incorporating Crew Resource Management (CRM).

Requirement

Discuss:
Aircrew duties

Review:
Aircrew duties

Performance Standard. Per CH-53 NATOPS and FRS Maneuver Description Guide

Prerequisite. REV-1900

311. CORE SKILL PHASE (2000)

1. Purpose. To introduce and develop proficiency in the execution of Core Skills required as crew chief/aerial observer within a Marine Heavy Helicopter Squadron (HMH). The Core Skill Phase represents the basic skill sets required to conduct Mission Skills (3000 Phase). These basic functions serve as tactical enablers that allow crews to progress to the more complex Mission Phase. This phase encompasses a combination of academic and flight events to train the individual aircrew to the level required to conduct assigned Mission Skills.

2. General

a. The aircrew under instruction is considered NSQ HLL (able to transport troops under HLL conditions) when the following 6 events have been completed: HLL-2120, HLL-2220, HLL-2221, HLL-2320, HLL-2321, and HLL-2920. Aircrew shall fly all NS events in the NSQ HLL syllabus under ambient light conditions of .0022 LUX or greater.

b. The aircrew under instruction is considered NSQ LLL (able to transport troops under LLL conditions) when the following events have been completed: LLL-2230, LLL-2231, LLL-2330, LLL-2331, LLL -2930. Aircrew shall fly all NS events in the NSQ LLL syllabi under ambient light conditions of below .0022 LUX.

c. The following stages are included in the Core Skill Phase of training.

(2100) Internal Loads (INT) & Formation (FORM)
(2200) Confined Area Landings (CAL)
(2300) Terrain Flight (TERF)
(2400) Externals (EXT)
(2500) Ground Threat Reaction (GTR)
(2600) Helicopter Air to Air Refueling (HAAR)
(2700) Field Carrier Landing Practice (FCLP)
(2800) Aerial Gunnery (AG)
(2900) Tactics (TAC)
(2X2X) NS HLL (HLL) (Contained within other stages)
(2X3X) NS LLL (LLL) (Contained within other stages)

d. Within the stages all training codes are further broken down according to ambient conditions.

(XX00) Sim
(XX10) Daylight
(XX20) High Light Level
(XX30) Low Light Level
(XX40) Can be done day or night (during HLL or LLL conditions)unless otherwise specified

Abbreviation	Meaning
A	Aircraft
B	Basic Training Syllabus
R	Refresher Training Syllabus
SCD	Series Conversion “Delta” Training Syllabus
SCE	Series Conversion “Echo” Training Syllabus
S	Simulator
S/A	Simulator preferred/Aircraft optional
STATIC A/C	A/C used to facilitate simulated training
MCAT	Marine Common Aircrew Trainer
PTT	Part Task Trainer
DP	Dual Point Externals

3. Ground/Academic Training

a. Purpose. Aircrew undergoing instruction in this phase must have completed the MAWTS-1 Course Catalog Academic Support Package lectures applicable to this phase of training.

b. Upon completion, the CCUI/AOUI shall report to the designated representative(s), who will then manually update the training code in M-SHARP and log the academic/ground training event in section 3 (Aircrew Ground School Training) of the APR, using the Enlisted Aircrew Performance Record/Qualification Jacket Academic Tracker beginning on Pg 3-164 of this document.

c. 2000-5000 classes are located at the MAWTS-1 NIPR website under ASD, CH-53, T&R:

https://www.intranet.tecom.usmc.mil/sites/mawts1/default.aspx

d. SIPR 2000-6000 classes are located at the MAWTS-1 SIPR website under ASD, CH-53, T&R:

http://www.mawts1.usmc.smil.mil/

CORE SKILL PHASE (2000)

ACAD-2004	(S)	AAR / ALE 47
ACAD-2012	(S)	APR-39
ACAD-2018	(S)	ALQ-157 (CH-53D)
ACAD-2019	(S)	AAQ-24
ACAD-2050	(U)	EA Tactical aircrew considerations and responsibility
ACAD-2051	(U)	EA Terrain flight for enlisted aircrew
ACAD-2052	(U)	EA Night vision training
ACAD-2053	(U)	EA Fundamentals of aerial gunnery
ACAD-2054	(U)	EA XM-218/GAU-16A machine gun
ACAD-2055	(U)	EA GAU-21 .50 cal machine gun
ACAD-2056	(U)	EA Laser aiming devices
ACAD-2057	(U)	EA Laser boresighting
ACAD-2058	(U)	EA Basic principles of escort operations

4. Prerequisites. The following events/designations are prerequisites for crew chiefs prior to the commencement of the Core Skill Phase. Aerial observers shall begin their training in the Core Skill Phase (2000).

Academic: See event
Flight: CSIX-1901
Designation: CC

5. Internal Loads (INT)

a. Purpose. To refine aircrew duties in loading, securing, unloading passengers, cargo and vehicles.

b. Crew Requirement. P/P/CC/AO.

c. Ground/Academic Training. All self paced readings and lectures pertaining to this stage shall be completed prior to flight initiation. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

SINT-2100 1.5 * B 1 STATIC A/C / PTT S (N)

Goal. Practice aircrew duties when loading, unloading and securing of internal cargo and/or vehicles.

Requirement

Review:
Cargo and/or vehicle loading, securing, and unloading procedures.

Discuss:
Safety precautions and procedures used when transporting dangerous cargo petroleum, oxygen, lubricants (POL), liquid oxygen (LOX), pyrotechnics, and class V cargo (ammunition), etc.

Performance Standards. Demonstrate cargo and/or vehicle loading procedures IAW the cargo loading manual and applicable NATOPS.

External Syllabus Support. Applicable cargo and/or vehicle(s) and applicable part task trainer.

Prerequisite. ACAD 2050, ACAD 2052~N.

SINT-2101 1.5 * B 1 STATIC A/C / PTT S (N)

Goal. Practice aircrew duties when carrying internal passengers.

Requirement.

Review:
Procedures for embarking, securing and debarking passengers.
Unloading of personnel.
NFM-900 Passenger briefing guide.

Discuss:
Problems encountered while embarking, securing and debarking passengers.
Emergency passenger egress.
Abandon/ditching aircraft.

Performance Standards. Demonstrate passenger briefing, embarking, securing, and debarking procedures IAW applicable NATOPS.

External Syllabus Support. Applicable part task trainer.

Prerequisite. ACAD 2050, ACAD 2052~N.

INT-2105 1.5 365 B,R 1 CH-53 A (N)

Goal. Practice aircrew duties when carrying internal cargo and/or vehicles.

Requirement

Review:
Cargo and/or vehicle loading, securing, and unloading procedures.

Discuss:
Safety precautions and procedures used when transporting dangerous cargo petroleum, oxygen, lubricants (POL), liquid oxygen (LOX), pyrotechnics, and class V cargo (ammunition), etc.

Performance Standards. Demonstrate cargo and/or vehicle loading procedures IAW the Cargo Loading Manual and applicable NATOPS.

Prerequisite. ACAD-2050, ACAD-2052~N, INT-2100.

External Syllabus Support. Applicable cargo and/or vehicle(s).

INT-2106 1.5 365 B,R 1 CH-53 A (N)

Goal. Practice passenger briefing, embarking, securing, and debarking procedures.

Requirement

Review:
Procedures for embarking, securing, and debarking of passengers.
NFM-900 Passenger briefing guide.

Discuss:
Problems encountered while embarking, securing and debarking passengers.
Emergency passenger egress.
Abandon/ditching aircraft.

Performance Standards. Demonstrate passenger briefing, embarking, securing, and debarking procedures IAW applicable NATOPS.

Prerequisite. ACAD-2050, ACAD-2052~N, INT-2101.

6. Formation (FORM)

a. Purpose. To review aircrew responsibilities during formation flight and introduce responsibilities of tactical formation flight during the day.

b. Crew Requirement. P/P/CC/AO.

c. Ground/Academic Training. All self paced readings and lectures pertaining to this stage shall be completed prior to flight initiation. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

FORM-2110 1.5 365 B,R 2 CH-53 A D

Goal. Demonstrate aircrew duties during basic formation flight and introduce tactical formation flight.

Requirement

Review:
Formation.
Closure rate.
Wingman terminology.
Lead changes (to include form lead/tactical lead).
CRM.
Loss of visual contact with wingman.
Comfort levels.
Emergency procedures.
Tactical formation maneuvers.

Introduce:
Section tactical formation.

Performance Standards. Demonstrate proficient knowledge of aircrew considerations during formation flight IAW applicable NATOPS. Practice aircrew duties during tactical formation flight IAW the applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. ACAD-2050.

7. Confined Area Landings (CAL)

a. Purpose. To review aircrew responsibilities during CALs and introduce CALs with multiple aircraft during the day.

b. Crew Requirement. P/P/CC for CAL-2210, P/P/CC/AO for CAL-2211.

c. Ground/Academic Training. All self paced readings and lectures pertaining to this stage shall be completed prior to flight initiation. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

CAL-2210 1.5 365 B 1 CH-53 A D

Goal. Introduce and practice CALs using tactical approaches.

Requirement

Discuss:
- CALs.
- CRM.
- Lookout doctrine.
- Aircraft clearances.
- Terrain suitability.
- Drift correction.

Introduce:
- Tactical approaches.

Performance Standards. Demonstrate performance of aircrew duties during tactical CALs IAW the applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. ACAD-2050.

Range Requirements. CAL/MAL site.

CAL-2211 1.5 365 B,R,SC 2 CH-53 A D

Goal. Introduce and practice tactical section CALs.

Requirement

Discuss:
- CALs.
- CRM.
- Lookout doctrine.
- Aircraft clearances.
- Terrain suitability.
- Drift correction.
- Tactical approaches.

Wingman terminology.

Introduce:
Section takeoffs, approaches, and landings to a CAL site.

Performance Standards. Demonstrate performance of aircrew duties during tactical section CALs IAW the applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. FORM-2110, CAL-2210.

Range Requirements. CAL/MAL site.

8. Terrain Flight (TERF)

a. Purpose. To enhance aircrew responsibilities and lookout doctrine with TERF maneuvers/navigation and introduce section maneuvering in the day TERF environment.

b. General

(1) Currency restrictions per T&R Program Manual. Aircrew is considered TERF qualified at the completion of TERF-2311.

c. Crew Requirement. P/P/CC/AO.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

TERF-2310 1.5 365 B 1 CH-53 A D

Goal. Review maneuvers and clearance while flying in a TERF environment.

Requirement

Instructor:
TERFI required for initial flights, refreshers or when not TERF qualified.

Review:
Low level and contour flight.

Discuss:
Crew comfort levels.
CRM.
Lookout doctrine.
Terminology.
ICS procedures.
Obstacle clearance.
Emergency procedures.
TERF maneuvers.
Navigation.

Performance Standards. Perform TERF maneuvers and maintain aircraft clearance IAW the applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. ACAD-2050, ACAD-2051

Range Requirements. Approved TERF maneuver area/route.

TERF-2311 1.5 365 B,R,SC 2 CH-53 A D

Goal. Introduce maneuvers and clearance for a section of aircraft in the TERF environment.

Requirement

Instructor:
TERFI required for initial flights, refreshers or when not TERF qualified.

Discuss:
- Crew comfort levels.
- CRM.
- Lookout doctrine.
- Terminology.
- ICS procedures.
- Aircraft clearance.
- Multiple aircraft operations.

Performance Standards. Perform TERF maneuvers in a section while in the TERF environment IAW the applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. FORM-2110, and TERF-2310.

Range Requirements. Approved TERF maneuver area/route.

9. External Loads (EXT)

a. Purpose

(1) To develop skills necessary for external loads in confined areas.

(2) Aerial Observers are not required to call maneuvers over the load. AO responsibility is to assume both L&R window responsibilities during EXT operations.

b. Crew Requirement. P/P/CC/AO.

c. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

EXT-2410 1.5 365 B,RD,SC 1 CH-53 A D

Goal. Practice single point externals.

Requirement

Discuss:
- Crew coordination.
- External procedures.
- HST considerations.

Standard terminology.
Single point cargo hook system.
Cargo hook control panel.
Aircrew portable pendant control.
Cargo hook emergency release handle(CH-53D).
Static discharge precautions.
Load rigging.
Emergency cargo release.
Multiservice Helicopter Sling Load Manual

Demonstrate:
Standard terminology.
Cargo hook setup.
Hand and arm signals.

Performance Standards. Perform single point external hookups and releases with proficiency IAW applicable NATOPS. Execute 5 pickups and deliveries within 5 meters of intended point of delivery.

Prerequisite. CAL-2210.

Range Requirements. Approved CAL/MAL site.

External syllabus support. HST, certified single point load.

EXT-2411 1.5 365 B,RE,SCE 1 CH-53E A D

Goal. Practice dual point external operations.

Requirement

Discuss:
Proper preflight of dual point system.
Types of slings.
Crew Coordination.
External procedures.
HST considerations.
Standard terminology.
Dual point cargo hook system.
Cargo hook control panel.
Aircrew portable pendant control.
Cargo hook emergency release handle.
Static discharge precautions.
Load rigging.
Emergency cargo release.
Multiservice Helicopter Sling Load Manual

Performance Standards. Perform dual point hookups and releases with proficiency IAW the applicable NATOPS. Execute 5 pickups and deliveries within 5 meters of intended point of delivery.
Prerequisite. CAL-2210.

Range Requirements. Approved CAL/MAL site.

External syllabus support. HST, certified dual point load.

EXT-2420 1.5 180 B,RD,SC 1 CH-53 A NS

Goal. Practice single point external operations using NS in HLL conditions.

Requirement

Instructor:
NSI required for initial flights, refreshers or when not HLL qualified.

Review:
- HLL NS considerations.
- Safety precautions.
- External cargo lighting patterns.
- Use of chem lights on external pendant and the external load.
- Blowing debris.
- Load rigging.
- Obstacle clearance on approach to and departure from the drop zone.

Discuss:
- CRM.
- Flight with single point external loads.
- Load stability.
- Standard terminology.
- HLL NS considerations.
- Load rigging.

Performance Standards. Demonstrate proficiency of single point external operations using NS in a HLL condition as outlined in the applicable NATOPS. Execute 5 pickups and deliveries within 5 meters of intended point of delivery.

Prerequisite. CAL-2220 and EXT-2410.

Range Requirements. Approved CAL/MAL site.

External Syllabus Support. HST, certified single point load.

EXT-2421 1.5 180 B,RE,SCE 1 CH-53E A NS

Goal. Practice dual point external operations using NS in HLL conditions.

Requirement

Instructor:
NSI required for initial flights, refreshers or not HLL qualified.
Review:
- Safety precautions.
- External cargo lighting patterns.
- Use of chem lights on external pendant and the external load.
- Blowing debris, rotor wash.
- Load rigging.

Obstacle clearance on approach to and departure from the drop zone.

Discuss:
HLL NS considerations.
CRM.
Flight with dual point external loads.
Load stability.
Standard terminology.
Load rigging.

Performance Standards. Demonstrate proficiency of dual point external operations using NS in a HLL condition IAW applicable NATOPS. Execute 5 pickups and deliveries within 5 meters of intended point of delivery.

Prerequisite. CAL-2220 and EXT-2411.

Range Requirements. Approved CAL/MAL site.

External Syllabus Support. HST, certified dual point load.

EXT-2430 1.5 180 B,R,SC 1 CH-53 A NS

Goal. Introduce external operations in LLL conditions, dual point preferred for CH-53E.

Requirement

Instructor:
NSI required for initial flights, refreshers or not LLL qualified.

Review:
Safety precautions.
External cargo lighting patterns.
Use of chem lights on external pendant and the external load.
Blowing debris.
Load rigging.
Obstacle clearance on approach to and departure from the drop zone.

Discuss:
LLL NS considerations.
CRM.
Flight with dual point external loads (if required).
Load stability.
Standard terminology.
Load rigging.

Introduce:
External operations using NS in LLL conditions.

Performance Standards. Demonstrate proficiency of external operations using NS in a LLL condition IAW applicable NATOPS.

Prerequisite. CAL-2230, EXT-2420, EXT-2421 for CH53E

Range Requirement. Approved CAL/MAL site.

External Syllabus Support. HST, certified load.

10. Ground Threat Reaction (GTR)

a. Purpose. To introduce and develop proficiency in using ASE and tactics to defeat non-radar ground-based threats.

b. General. Aircrew shall conduct this stage against non-radar ground-based threats. Utilization of a range with threat simulation systems (e.g., Smokey SAMs, target lights, handheld pyrotechnics, and AAR-47 stimulator) will greatly enhance aircrew training.

c. Crew Requirement. P/P/CC/AO.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

GTR-2540 1.5 365 B,R 2 CH-53 A (NS)

Goal. Conduct ground threat reactions and ASE familiarization.

Requirement

Instructor:
WTI or DMI required for initial flights and refreshers.
WTI or DMI that is also an NSI required for initial flights if aircrew are not NS qualified in the light level which the event is flown.

Discuss:
Operation of applicable ASE gear.
The strengths and weaknesses of each ASE system versus non-radar ground-based threats.
CRM.
Different tactical IR countermeasures.
Tactical maneuvering to counter the threat.
Inter- and intra-aircraft communications and standard terminology.
Threat identification and rules of engagement.
Lookout doctrine.
Low altitude emergencies.

Introduce:
Tactical maneuvering and ASE employment to counter the threat.

Performance Standards. Demonstrate basic knowledge of attack warning against various non-radar ground-based threats. Utilize standard terminology in inter-aircraft communications. Demonstrate working knowledge of ASE.

Prerequisite. ACAD-2004,ACAD-2012,ACAD-2018,ACAD-2019, TERFQ. TERF-2321 if flown under HLL conditions. If flown under LLL conditions, TERF-2331.

Ordnance. 60 flares and 2 .50 Cal machine guns.

Range Requirements. Expendable capable range. Approved TERF maneuver area/route.

External Syllabus Support. Ground-based non-radar threat simulators (e.g., Smokey SAMs, AAR-47 stimulator, handheld pyrotechnics, target lights).

11. Helicopter Air to Air Refueling (HAAR)

a. Purpose. To develop standard procedures and CRM required for HAAR.

b. General. Discuss and become familiar with all aspects of helicopter air to air refueling (HAAR).

c. Crew Requirement. P/P/CC/AO.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

SHAAR-2640 1.5 * B,SCE 1 CH-53E A/S (NS)

Goal. Introduce enlisted aircrew responsibilities during HAAR.

Requirement

Instructor:
NSI required if not NS qualified for the light level which event is conducted.

Discuss:
Airborne refueling operations.
Aircraft clearance.
Fuel management panel operations.
CRM.
Safety procedures.
Cabin configuration with weapons.
Emergency breakaway.
Emergency procedures.
EMCON tanker procedures.

Introduce:
Procedures for enlisted aircrew during HAAR operations.

Performance Standards. Perform HAAR IAW CH-53E NATOPS.

Prerequisite.
FORM-2110 if performed in the day.
FORM-2120 if performed at night.

Range Requirement. Special use airspace.

External Syllabus Support. KC-130 tanker.

12. Field Carrier Landing Practice (FCLP)

a. Purpose. To develop procedures and CRM required for shipboard operations.

b. General. Discuss and become familiar with all aspects of shipboard operations and CRM applicable to the carrier qualification stage as described in the appropriate CH-53 NATOPS Flight Manual, NWP-42, the LHA/LPH/LHD NATOPS, and OPNAVINST 3710.7. Each event requires 5 successful FCLPs.

c. Crew Requirement. FCLP-2710: P/P/CC and FCLP-2742: P/P/CC/AO. NS flights require 2 qualified crewmembers if not an instructional flight.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

FCLP-2710 1.5 365 B,R 1 CH-53 A D

Goal. Introduce day FCLPs.

Requirement

Discuss:
- Shipboard operations.
- Aircraft clearance.
- CRM.
- Hand and arm signals.
- Safety procedures.
- Ditching procedures.
- Emergency procedures.

Introduce:
- Procedures required for shipboard operations.

Performance Standards. Perform day FCLPs IAW appropriate shipboard NATOPS.

Prerequisite. CAL-2210.

External Syllabus Support. FCLP pad.

FCLP-2742 1.5 365 B,R 1 CH-53 A NS

Goal. Introduce NS FCLPs.

Requirement

Instructor:
- NSI required when not NS qualified in the light level event is conducted.

Discuss:
- NS considerations for appropriate light level.
- Shipboard operations.
- Shipboard lighting.
- Aircraft clearance.

CRM.
Hand and arm signals.
Safety procedures.
Ditching procedures.
Emergency procedures.

Introduce:
Procedures required for shipboard operations in the NS environment.

Performance Standards. Perform NS FCLPs IAW appropriate shipboard NATOPS.

Prerequisite. CAL-2220 HLL, CAL-2230 if LLL conditions, and FCLP-2710.

External Syllabus Support. FCLP pad.

13. XM-218 Aerial Gunnery (AG)

a. Purpose. To demonstrate proficiency in delivering fire on targets of opportunity using the XM-218 .50 cal machine gun.

b. General

(1) Aerial gunnery qualification lectures and initial instructional flights shall be conducted by a WTI or AGI designated on the XM-218 weapon.

(2) Aircrew shall be TERF qualified prior to beginning XM-218 aerial gunnery stage of training.

(3) At least 1 aircrew shall possess a current copy of the NTRP 3-22.4 CH53 APP F. This document will no longer be required once incorporated into the NFM-900 Aircrew Pocket Checklist.

(4) XMAG-2841 certifies the XMAGUI as an aerial gunner with the XM-218 weapon. Aircrew may be designated an XM-218 aerial gunner by the commanding officer after completing XMAG-2841.

(5) Aircrew may conduct these events in either HLL or LLL conditions, and should be qualified in the appropriate light level.

(6) An XM-218 AGI is required for all initial flights or when aircrew are not designated as XM-218 aerial gunners.

(7) An XM-218 AGI/NSI is required for all initial night flights are not designated in appropriate light level.

(8) Approved laser aiming devices are required for XMAG-2840, XMAG-2841.

c. Crew Requirement. P/P/CC/AG.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

XMAG-2810 1.5 365 B 1 CH-53 A D

Goal. Introduce aerial gunnery training during the day with the XM-218 machine gun.

Requirement

Instructor:
An XM-218 AGI is required for all initial flights or when not designated as an XM-218 aerial gunner.

Discuss:
Use and application of conventional weapons checklist.
Fire discipline.
Aiming techniques.
Crew coordination.
Fire control voice commands/hand and arm signals.
Range considerations.
Weapon capabilities.
Firing in landing profile.
Weapon malfunctions.
Burst rates.

Introduce:
Preflight.
Safety procedures associated with ordnance evolutions.
Weapons Conditions (Weapons Free, Tight, Hold).
Ordnance loading.
Burst Rates.
Flight profiles (running, diving, hovering).
Firing in landing profile.
Post-flight.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the XM-218 machine gun IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control and ICS procedures during single ship aircraft operations. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisites. ACAD-2053, ACAD-2054, TERF-2310.

Ordnance. 500 rds .50 Cal. per crew member and 2 XM-218 machine guns.

Range Requirements. Aerial gunnery range with SDZ approved for .50 CAL for day shooting. Targets should range in size from personnel targets to APC size targets.

XMAG-2811 1.5 365 B,R 2 CH-53 A D

Goal. Introduce day AG with the XM-218 machine gun within a section.

Requirement

Instructor:
An XM-218 AGI is required for all initial flights, refreshers or when not designated as XM-218 aerial gunner.

Discuss:
Crew responsibilities.
Section responsibilities.
Sectors of fire.
Target hand-off.

Introduce:
Limited sectors of fire.
Fire discipline within a section.

Practice:
Firing on prebriefed targets.
Crew coordination.
Firing in running, hovering and landing profiles.
Burst rates.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the XM-218 IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control, and ICS procedures during multi ship aircraft operations. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisites. TERF-2311, AG-2810.

Ordnance. 500 rds .50 Cal. per crew member and 2 XM-218 machine guns.

Range Requirements. Aerial gunnery range with SDZ approved for .50 CAL for day shooting. Targets should range in size from personnel targets to APC size targets.

XMAG-2840 1.5 365 B 1 CH-53 A NS

Goal. Introduce aerial gunnery training with the XM-218 machine gun while using NS.

Requirement

Instructor:
An XM-218 AGI is required for all initial flights. An XM-218 AGI/NSI is required when not NS qualified in the light level event is conducted.

Discuss:
Muzzle flash.
Sighting techniques.
LASER safety/employment.
Cabin configuration.
Burst rates.

Introduce:
Aiming techniques on NS.
Weapons control on NS.
Lighting used with weapon operation.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the XM-218 with approved laser aiming device IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control and ICS procedures during single ship aircraft operations utilizing NS. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisite. ACAD-2056, ACAD-2057 (TERF-2320 if HLL, TERF-2330 if LLL), AG-2810

Ordnance. 500 rds .50 Cal per crew member and 2 XM-218 machine guns.

Range Requirements. Aerial gunnery, laser safe range with SDZ approved for .50 CAL for day and night shooting. Targets should range in size from personnel targets to APC size targets.

XMAG-2841 1.5 365 B,R 2 CH-53 A NS

Goal. Introduce aerial gunnery training with the XM-218 machine gun while using NS in a section.

Requirement
Instructor:
An XM-218 AGI is required for all initial flights and refreshers. An XM-218 AGI/NSI is required when not NS qualified in the light level which the event is conducted.

Discuss:
Muzzle flash.

Sighting techniques.
LASER safety/employment.
Cabin configuration.
Burst rates.

Introduce:
Aiming techniques on NS.
Weapons control on NS.
Lighting used with weapon operation.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the XM-218 with approved laser aiming device IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control, and ICS procedures during multi ship aircraft operations utilizing NS. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisite. TERF-2321 if HLL, TERF-2331 if LLL, AG-2811, AG-2840.

Ordnance. 500 rds .50 Cal per crew member and 2 XM-218 machine guns.

Range Requirements. Aerial gunnery, laser safe range with SDZ approved for .50 CAL for day and night shooting. Targets should range in size from personnel targets to APC size targets.

14. GAU-21 Aerial Gunnery (GAUAG)

a. Purpose. To demonstrate proficiency in delivering fire on targets of opportunity using the GAU-21 .50 cal machine gun.

b. General

(1) Aerial gunnery qualification lectures and initial instructional flights shall be conducted by a WTI or AGI designated on the GAU-21 weapon.

(2) Aircrew shall be TERF qualified prior to beginning GAU-21 aerial gunnery stage of training.

(3) At least 1 aircrew shall possess a current copy of the NTRP 3-22.4 CH53 APP F. This document will no longer be required once incorporated into the NFM-900 Aircrew Pocket Checklist.

(4) GAUAG-2843 certifies the AGUI as an aerial gunner with the GAU-21 weapon. Aircrew may be designated a GAU-21 aerial gunner by the commanding officer after completing GAUAG-2843.

(5) Aircrew may conduct these events in either HLL or LLL conditions and should be qualified in the appropriate light level.

(6) A GAU-21 AGI is required for all initial flights or when aircrew are not designated as GAU-21 aerial gunners.

(7) A GAU-21 AGI/NSI is required for all initial night flights or when aircrew are not designated in appropriate light level.

(8) Approved laser aiming devices are required for GAUAG-2842, GAUAG-2843.

c. Crew Requirement. P/P/CC/AG.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

GAUAG-2812 1.5 365 B 1 CH-53 A D

Goal. Introduce aerial gunnery training during the day with the MWPC.

Requirement

Instructor:
A GAU-21 AGI is required for all initial flights.

Discuss:
Use and application of conventional weapons checklist.
Egress procedures
Fire discipline.
Aiming techniques.
Crew coordination.
Fire control voice commands/hand and arm signals.
Range considerations.
Weapon capabilities.
Firing in landing profile.
Weapon malfunctions.
Burst rates.

Introduce:
Preflight.
Safety procedures associated with ordnance evolutions.
Ordnance loading.
Burst Rates.
Flight profiles (running, diving, hovering).
Firing in landing profile.
Post-flight.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the MWPC IAW the crew conventional checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control, and ICS procedures during single ship aircraft operations. Point of aim, point of impact shall be within the following parameters.

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisites. ACAD-2053, ACAD-2055, TERF-2310.

Ordnance. 500 rds .50 Cal. per crew member and 2 GAU-21 machine guns.

Range Requirements. Aerial gunnery range with SDZ approved for .50 CAL for day shooting. Targets should range in size from personnel targets to APC size targets

GAUAG-2813 1.5 365 B,R 2 CH-53 A D

Goal. Introduce day AG with the MWPC within a section.

Requirement

Instructor:
A GAU-21 AGI is required for all initial flights and refreshers.

Discuss:
Crew responsibilities.
Section responsibilities.
Sectors of fire.
Target hand-off.

Introduce:
Limited sectors of fire.
Fire discipline within a section.

Practice:
Firing on prebriefed targets.
Crew coordination.
Firing in running, hovering and landing profiles.
Burst rates.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the MWPC IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control, and ICS procedures during multi ship aircraft operations. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisites. TERF-2311, AG-2812.

Ordnance. 500 rds .50 Cal. per crew member and 2 GAU-21 machine guns.

Range Requirements. Aerial gunnery range with SDZ approved for .50 CAL for day shooting. Targets should range in size from personnel targets to APC size targets.

GAUAG-2842 1.5 365 B 1 CH-53 A NS

Goal. Introduce aerial gunnery training with the MWPC while using NS.

Requirement

Instructor:
A GAU-21 AGI is required for all initial flights. A GAU-21 AGI/NSI is required when not NS qualified in the light level which the event is conducted.

Discuss:
Muzzle flash.
Sighting techniques.
LASER safety/employment.
Cabin configuration.
Burst rates.

Introduce:
Aiming techniques on NS.
Weapons control on NS.
Lighting used with weapon operation.
LASER safety/employment.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the MWPC with approved laser aiming device IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control, and ICS procedures during single ship aircraft operations utilizing NS. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisite. ACAD-2056, ACAD-2057, TERF-2320 if HLL, TERF-2330 if LLL, AG-2812.

Ordnance. 500 rds .50 Cal per crew member and 2 GAU-21 machine guns.
Range Requirements. Aerial gunnery, laser safe range with SDZ approved for .50 CAL for day and night shooting. Targets should range in size from personnel targets to APC size targets.

GAUAG-2843 1.5 365 B,R 2 CH-53 A NS

Goal. Introduce aerial gunnery training with the MWPC while using NS in a section.

Requirement

Instructor:
A GAU-21 AGI is required for all initial flights and refreshers. A GAU-21 AGI/NSI is required when not NS qualified in the light level which the event is conducted.

Discuss:
Muzzle flash.
Sighting techniques.
LASER safety/employment.
Cabin configuration.
Burst rates.

Introduce:
Aiming techniques on NS.
Weapons control on NS.
Lighting used with weapon operation.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the MWPC with approved laser aiming device IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control and ICS procedures during multi ship aircraft operations utilizing NS. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisite. TERF-2321 if HLL, TERF-2331 if LLL, AG-2813, AG-2842.

Ordnance. 500 rds .50 Cal per crew member and 2 GAU-21 machine guns.

Range Requirements. Aerial gunnery, laser safe range with SDZ approved for .50 CAL for day and night shooting. Targets should range in size from personnel targets to APC size targets.

15. XM-218 / GAU-21 AERIAL GUNNERY CONVERSION (AGC)

a. Purpose. To convert from one weapon system to the other while still being able to provide fire on targets of opportunity.

b. General

(1) Aerial gunnery qualification lectures and initial instructional flights shall be conducted by a WTI or AGI designated on the respective weapon system.

(2) Aircrew shall be designated as an aerial gunner on either the XM-218 or the GAU-21 weapon system prior to beginning the aerial gunnery stage of training

(3) At least 1 aircrew shall possess a current copy of the NTRP 3-22.4 CH53 APP F. This document will no longer be required once incorporated into the NFM-900 Aircrew Pocket Checklist.

(4) AGC-2844 certifies the AGUI as an aerial gunner on the opposite weapon system. Aircrew may be designated an aerial gunner on the opposite weapon system by the commanding officer after completing AGC-2844. Once the conversion syllabus has been completed an additional designation letter must be signed by the commanding officer to be qualified on both weapon systems.

(5) Aircrew may conduct these events in either HLL or LLL conditions.

(6) An AGI for the respective weapon is required for all initial flights.

(7) As AGI/NSI for the respective system is required for all initial night flights

(8) Approved laser aiming devices are required for AGC-2844.

(9) Upon completion of the conversion syllabus to either weapon system it is the responsibility of the aircrew training manager to manually input proficiency dates into M-SHARP for the converted weapon system. Dates to be entered for the appropriate stage of training will be the completion date of the AGC-2844.

c. Crew Requirement. P/P/CC/AG.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

AGC-2814 1.5 * B 1+ CH-53 A D

Goal. Transition EAC on opposite approved weapon system.

Requirement

Instructor:
AGI on the weapon utilized required for initial flights.

Discuss:
Fire discipline.
Aiming techniques.
Crew coordination.
Weapon capabilities.
Firing in landing profile.
Weapon malfunctions.
Burst rates.

Introduce:
- Preflight.
- Safety procedures associated with ordnance evolutions.
- Ordnance loading.
- Burst rates.
- Post-flight.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the appropriate weapons system IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control, and ICS procedures during single or multi ship aircraft operations. Point of aim, point of impact shall be within the following parameters.

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisites. XMAG-2841 or GAUAG-2843.
If XMAG-2841 is the prerequisite utilized then AGC-2814 shall be flown with the MWPC.
If GAUAG-2843 is the prerequisite utilized then AGC-2814 shall be flown with the XM-218.

Ordnance. 500 rds .50 Cal. per crew member and 2 appropriate weapons systems.

Range Requirements. Aerial gunnery range with SDZ approved for .50 CAL for day shooting. Targets should range in size from personnel targets to APC size targets.

AGC-2844 1.5 * B 1+ CH-53 A NS

Goal. Transition EAC on opposite approved weapon system while utilizing NS.

Requirement

Instructor:
- AGI is required for appropriate weapon system required for initial flights. AGI/NSI is required for appropriate weapon system required when not NS qualified in the light level which event is conducted.

Discuss:
- Crew responsibilities.
- Section responsibilities.
- Sectors of fire.
- Target hand-off.

Introduce:
- Aiming techniques in section on NS.
- Weapons control in section on NS.

Practice:
Aiming techniques on NS.
Weapons control on NS.
Lighting used with weapon operation.
Weapons employment/delivery.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the appropriate weapon system with approved laser aiming device IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control and ICS procedures during multiple aircraft operations utilizing NS. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisite. AGC-2814
This code shall be flown with the same weapon system as was flown with in the AG-2814

Ordnance. 500 rds .50 Cal. per crew member and 2 .50 Cal machine guns.

Range Requirements. Aerial gunnery, laser safe range with SDZ approved for .50 CAL for day and night shooting. Targets should range in size from personnel targets to APC size targets.

16. Tactics (TAC)

a. Purpose. To introduce aircrew responsibilities for tactical missions.

b. Crew Requirement. P/P/CC/AO. If rounds are utilized and aircrew are not AGQ an AGI is required.

c. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

TAC-2910 2.0 365 B 2 CH-53 A D

Goal. Introduce aircrew responsibilities during a section tactical operation.

Requirement

Instructor:
If rounds are utilized, an AGI is required if not AG qualified.

Discuss:
- Weather considerations.
- Scanning techniques (open terrain, dense vegetation).
- Navigation.
- No comm lead changes.
- Procedures for downed aircrew escorts.
- Weapons employment considerations.
- ASE utilization.

Introduce:
- Mission planning products.
- Lookout doctrine.
- Scanning techniques.
- Egress considerations with .50 Cal Machine Guns mounted.

Performance Standards. Demonstrate basic knowledge in low threat environment as stated in ANTTP 3-22.3-53. Demonstrate effective scan techniques as stated in ANTTP 3-22.3-53. Demonstrate knowledge / usage of mission planning products. If rounds are utilized refer to AG-2811 or AG-2813 per respective weapon system for weapons performance standards.

Prerequisite. ACAD-2058, CAL-2211 and TERF-2311.

Ordnance. Two .50 Cal machine guns are required. Rounds and firing of machine guns are optional.

External Syllabus Support. Ordnance request for weapons.

TAC-2911 2.0 365 B,R 2+ CH-53 A D

Goal. Introduce and practice aircrew responsibilities during tactical operations with multiple aircraft.

Requirement

Instructor:
- If rounds are utilized, an AGI is required if not AG qualified.

Review:
- TAC-2910
- Loading/securing/unloading of cargo/vehicles/troops.

Discuss:
- Taxi drop of internal cargo.
- Paradrop operations.
- Embarking/debarking of troops.
- External operations.

Practice:
- Responsibilities during a tactical operation.

Performance Standard. Demonstrate basic knowledge in low to medium threat environment as stated in ANTTP 3-22.3-53. Demonstrate effective scan techniques as stated in ANTTP 3-22.3-53. Demonstrate knowledge / usage of mission planning products. If rounds are utilized refer to AG-2811 or AG-2813

per respective weapon system for weapons performance standards.

Prerequisites. TAC-2910.

Ordnance. Two .50 Cal machine guns are required. Rounds and firing of machine guns are optional.

External Syllabus Support. Range/Ordnance/Escort request if utilized.

17. NS High Light Level (HLL)

a. Purpose. To develop skill in the use of NS under light levels greater than or equal to .0022 lux (HLL) as predicted by the Solar Lunar Almanac Prediction (SLAP) and to qualify aircrew in NS HLL operations.

b. General

(1) Night systems lectures and initial instructional flights and refresher flights shall be conducted by a WTI or NSI.

(2) Aircrew not NSQ HLL require supervision of an NSI for all events flown with NS.

(3) The aircrew under instruction is considered NSQ HLL (able to transport troops under HLL conditions) when the following 6 events have been completed: HLL-2120, HLL-2220, HLL-2221, HLL-2320, HLL-2321, and HLL-2920. For Series conversion from the CH-53D to CH-53E or CH-53E to CH-53D the aircrew is NSQ HLL (qualified to transport troops in HLL conditions) upon completion of HLL 2321 if the aircrew is HLL-2920 proficient. Aircrew shall fly all NS events in the NSQ HLL syllabus under ambient light conditions of .0022 LUX or greater.

(4) Successful completion of HLL-2920 constitutes Night Systems Qualified (NSQ) HLL. For series conversion aircrew successful completion of HLL-2321 constitutes Night Systems Qualified (NSQ) HLL. A qualification letter signed by the commanding officer is required stating the aircrew is NSQ HLL to carry troops under HLL conditions. The original shall be placed in the aircrew's NATOPS jacket, and a copy in the APR with a corresponding logbook entry.

c. Minimum crew requirements for all NS HLL flights. P/P/CC/AO.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the High Light Level stage:

Academic: ACAD-2052
Flight: FORM-2110 CAL-2211, TERF 2311

HLL-2120 1.5 180 B,R 2 CH-53 A NS

Goal. Demonstrate aircrew duties during basic NS formation flight and introduce NS tactical formation flight.

Requirement

Instructor:
NSI required for initial flights, refreshers or when not HLL qualified.

Review:
Formations.
Wingman terminology.
Closure rate.
Lead changes(to include form lead/tactical lead).
CRM.
Loss of visual contact with wingman.
Comfort level.
Emergency procedures.
Tactical formation maneuvers.

Introduce:
Section NS tactical formation.

Performance Standards. Demonstrate proficient knowledge of aircrew considerations during basic NS formation flight IAW the applicable NATOPS. Practice aircrew duties during NS tactical formation flight IAW the applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. ACAD-2052, FORM-2110.

HLL-2220 1.5 180 B 1 CH-53 A NS

Goal. Introduce and practice CALs using NS under HLL conditions.

Requirement

Instructor:
NSI required for initial flights.

Review:
CALs.
CRM.
Lookout doctrine.
Aircraft clearances.
Terrain suitability.
Drift correction.
Dark adaptation.
NS failures.
Aircraft lighting.

Discuss:
Depth perception.
Possible reduced visibility.
Obstacle clearance.

Performance Standards. Perform aircrew responsibilities during CALs using NS under HLL conditions while using NS IAW with applicable NATOPS.

Prerequisite. ACAD-2052, CAL-2210.

Range Requirements. CAL/MAL site.

HLL-2221 1.5 180 B,R,SC 2 CH-53 A NS

Goal. Introduce and practice section CALs using NS under HLL conditions.

Requirement

Instructor:
NSI required for initial flights, refreshers or when not HLL qualified.

Review:
NS CALs.
CRM.
Lookout doctrine.
Aircraft clearances.
Terrain suitability.
Drift correction.
Dark adaptation.
NS failures.
Aircraft lighting.
Depth perception.
Possible reduced visibility.
Obstacle clearance.

Introduce:
NS Section CALs.

Performance Standards. Perform aircrew responsibilities during section CALs using NS in HLL conditions IAW applicable NATOPS.

Prerequisite. FORM-2120, CAL-2211, HLL-2220.

Range Requirements. CAL/MAL site.

HLL-2320 1.5 180 B 1 CH-53 A NS

Goal. Introduce maneuvers and clearance while flying in a TERF environment using NS in HLL conditions.

Requirement

Instructor:
NSI required for initial flights.

Discuss:
HLL NS considerations.
Aircraft lighting.
Crew comfort levels.
CRM.
Lookout doctrine.
Terminology.
ICS procedures.
Obstacle clearance.
Emergency procedures.

Performance Standards. Perform TERF maneuvers while in the TERF environment using NS in a HLL condition IAW applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. ACAD-2052, TERF-2310.

Range Requirements. Approved TERF maneuver area/route.

HLL-2321 1.5 180 B,R,SC 2 CH-53 A NS

Goal. Review maneuvers and clearance for a section of aircraft in the TERF environment using NS in HLL conditions.

Requirement

Instructor:
NSI required for initial flights, refreshers or when not HLL qualified.

Discuss:
HLL NS considerations.
Aircraft lighting.
Crew comfort levels.
CRM.
Lookout doctrine.
Terminology.
ICS procedures.
Aircraft clearance.
Emergency procedures.
Multiple aircraft operations.

Performance Standards. Perform TERF maneuvers within a section while in the TERF environment using NS in a HLL condition IAW applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. HLL 2120, HLL 2311, HLL 2320.

Range Requirements. Approved TERF maneuver area/route.

HLL-2920 2.0 365 B,R 2 CH-53 A NS

Goal. Introduce aircrew responsibilities during tactical operations with multiple aircraft during HLL using NS.

Requirement

Instructor:
NSI required for initial flights, refreshers, or when not HLL qualified. If rounds are utilized AGI/NSI is required if not AGQ.

Review:
TAC-2910

Discuss:
Taxi drop of internal cargo.
Paradrop operations.

Embarking/debarking of troops using NS.
Comfort level.

Introduce:
Lookout doctrine.
Scanning techniques.
Egress considerations with .50 Cal machine guns mounted.

Performance Standards. Demonstrate basic knowledge in low threat environment on NS in a HLL as stated in ANTTP 3-22.3-53. Demonstrate effective scan techniques on NS as stated in ANTTP 3-22.3-53. Demonstrate knowledge / usage of mission planning products. If rounds are utilized refer to AG-2841 or AG-2843 per respective weapon system for weapons performance standards.

Prerequisite. HLL 2221, HLL 2321, TAC 2910.

Ordnance. Two .50 Cal machine guns are required. Rounds and firing of machine guns are optional.

Range Requirements. Live fire AG range (.50 Cal). Laser approved range.

External Syllabus Support. Ordnance request for weapons.

18. NS Low Light Level (LLL)

a. Purpose. To develop skill in the use of NS under light levels less than .0022 lux (LLL) as predicted by the Solar Lunar Almanac Prediction (SLAP) and to qualify aircrew in NS LLL operations.

b. General

(1) Aircrew not NSQ LLL require supervision of an NSI for all events flown with NS under .0022 lux (LLL).

(2) Aircrew will not begin the NSQ LLL syllabus until NSQ HLL and EXT 2420 complete for the CH-53D or NSQ HLL and EXT 2420 and 2421 complete for the CH-53E.

(3) The aircrew under instruction is considered NSQ LLL (able to transport troops under LLL conditions) when the following events have been completed: LLL-2230, LLL-2231, LLL-2330, LLL-2331, LLL-2930. For Series conversion from the CH-53D to CH-53E or CH-53E to CH-53D the aircrew is NSQ LLL (qualified to transport troops in LLL conditions) upon completion of LLL 2331 if the aircrew is LLL-2930 proficient. Aircrew shall fly all NS events in the NSQ LLL syllabus under ambient light conditions of below .0022 LUX.

(4) Successful completion of LLL-2930 constitutes Night Systems Qualified (NSQ) LLL. For series conversion aircrew, successful completion of LLL-2331 constitutes Night Systems Qualified (NSQ) LLL. A qualification letter signed by the commanding officer is required stating the aircrew is NSQ LLL to carry troops under LLL conditions. The original shall be placed in the aircrew's NATOPS jacket, and a copy in the APR with a corresponding logbook entry.

c. Minimum crew requirements for all NS LLL flights. P/P/CC/AO.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

e. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Low Light Level stage:

Flight: NSQ-HLL, EXT-2420 CH-53D / NSQ-HLL, EXT-2420, EXT 2421 CH-53E

LLL-2230 1.5 180 B 1 CH-53 A NS

Goal. Perform NS low work and CALs during LLL conditions.

Requirement

Instructor:
NSI required for initial flights.

Review:
CALs.
CRM.
Lookout doctrine.
Aircraft clearances.
Terrain suitability.
Drift correction.
Dark adaptation.
NS failures.
Aircraft lighting.

Discuss:
LLL NS considerations.
Comfort levels.
CRM.

Performance Standards. Practice aircrew responsibilities during CALs using NS in LLL condition IAW applicable NATOPS.

Prerequisite. NSQ HLL, EXT-2420 for CH53D, EXT-2420 and EXT-2421 for CH53E.

Range Requirements. CAL/MAL site.

LLL-2231 1.5 180 B,R,SC 2 CH-53 A NS

Goal. Develop proficiency in section CAL operations using NS during LLL conditions.

Requirement

Instructor:
NSI required for initial flights, refreshers or when not LLL qualified.

Review:
CALs.
CRM.
Lookout doctrine.

Aircraft clearances.
Terrain suitability.
Drift correction.
Dark adaptation.
NS Failures.
Aircraft lighting.

Discuss:
LLL NS considerations.
Comfort levels.
CRM.

Performance Standards. Demonstrate proficiency of aircrew responsibilities during, section CALs using NS in a LLL condition IAW the applicable NATOPS.

Prerequisite. LLL-2230.

Range Requirements. CAL/MAL site.

LLL-2330 1.5 180 B 1 CH-53 A NS

Goal. Review maneuvers and clearance while flying in a TERF environment using NS in LLL conditions.

Requirement

Instructor:
NSI required for initial flights.

Discuss:
LLL NS considerations.
Aircraft lighting.
Crew comfort levels.
CRM.
Lookout doctrine.
Terminology.
ICS procedures.
Obstacle clearance.
Emergency procedures.

Performance Standards. Perform TERF maneuvers while in the TERF environment using NS in a LLL condition IAW applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. NSQ HLL, EXT-2420 for CH53D, EXT-2420 and EXT-2421 for CH53E.

Range Requirements. Approved TERF maneuver area/route.

LLL-2331 1.5 180 B,R,SC 2 CH-53 A NS

Goal. Review maneuvers and clearance for an aircraft section in the TERF environment using NS in LLL conditions.

Requirement

Instructor:
NSI required for initial flights, refreshers or when not LLL qualified.

Discuss:
- LLL NS considerations.
- Aircraft lighting.
- Crew comfort levels.
- CRM.
- Lookout doctrine.
- Terminology.
- ICS procedures.
- Aircraft clearance.
- Emergency procedures.
- Multiple aircraft operations.

Performance Standards. Perform TERF maneuvers for a section while in the TERF environment using NS in a LLL condition IAW applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. LLL-2330.

Range Requirements. Approved TERF maneuver area/route.

LLL-2930 2.0 365 B,R 2+ CH-53 A NS

Goal. Practice aircrew responsibilities during tactical operations at night with multiple aircraft in LLL conditions utilizing NS.

Requirement

Instructor:
- NSI required for initial flights, refreshers, or when not LLL qualified. If rounds are utilized an AGI/NSI is required if not AGQ.

Review:
- TAC-2910

Discuss:
- Taxi drop of internal cargo.
- Paradrop operations.
- Differences between day and night operations.
- Embarking and debarking of troops at night.
- External operations.
- Crew comfort.
- Crew coordination.

Performance Standard. Demonstrate basic knowledge in low to medium threat environment on NS in a LLL as stated in ANTTP 3-22.3-53. Demonstrate effective scan techniques on NS in a LLL as stated in ANTTP 3-22.3-53. Demonstrate knowledge / usage of mission planning products. If rounds are utilized refer to AG-2841 or AG-28844 per respective weapon system for weapons performance standards.

Prerequisite. LLL-2231, LLL-2331, TAC-2911, and TAC-2920.

Ordnance. Two .50 Cal machine guns are required. Rounds and firing of machine guns are optional.

Range Requirements. Live fire AG range (.50 Cal). Laser approved range.

External Syllabus Support. Escort request if utilized.

312. MISSION SKILL PHASE (3000)

1. Purpose. To introduce and assist in tactical planning, briefing and execution of a Marine Heavy Helicopter squadron's assigned Marine Corps Tasks. Mission Skills have been developed to ensure that squadrons are capable of performing the Marine Corps Tasks (MCTs) assigned to a Marine Heavy Helicopter Squadron. Core Skills are the enablers that allow crews to perform Mission Skills.

2. General

a. All WTIs, NSIs, and those aircrew designated by the squadron commanding officer, will receive proficient status for all 3000 phase codes as of the signing of this T&R. Squadron operations personnel will be responsible for manually updating the Mission Skills in M-SHARP for those personnel designated by the squadron commanding officer. No designation letter is required in the APR.

b. For initial, refresher or when the aircrew under instruction are not proficient in a particular Mission Skill, training events shall be given by an instructor that is proficient in that Mission Skill(s). Mission skill events should be given to all those aircrew (Pilots, Crew Chief, AO) within the aircraft that meet the prerequisite. Additionally, for larger flights, any flight lead, (SL,DL,AFL,AMC) that is proficient in that Mission Skill can give the Mission Skill code to all aircrew within the flight that meet the prerequisite.

c. It is the intent that all TACEXs scenarios in the Core Skill and Core Plus Skill Phase be based on a minimum of one of the Mission Skills. If aircrew under instruction do not meet the prerequisite for the Mission Skill, they will not log the Mission Skill event. However, the instructor of the Core Skill or Core Plus Skill TACEX will log both the Core Skill or Core Plus Skill event and the Mission Skill event (EX: NSI logs a LLL-2930 and AT-3340. CCUI/AOUI in the LLL syllabus logs a LLL-2930). Once aircrew have been designated NSQ LLL and AGQ, all subsequent TACEXs should be coded with the appropriate Core Skill or Core Plus Skill and Mission Skill event. Aircrew that are not proficient in a Core Skill or Core Plus Skill event may update both the Core Skill or Core Plus Skill and the Mission Skill event on the same sortie.

d. Prior to the commencement of this phase, aircrew under instruction shall be designated NSQ LLL and AGQ.

e. The aircrew under instruction should assist in the mission analysis, planning, briefing, execution and debriefing of each flight. Aircrew shall use the ANTTP series and NATOPS as source documents for planning, briefing, execution and debriefing.

f. Multiple Mission Skill training events may be logged per sortie (e.g. EXP-3240, AT-3340, AD-3540) as long as the requirement(s) is met for each

code. Mission Skill phase training events are intended to be flown and logged in conjunction with other T&R syllabus events (e.g. for aircrew: EXP-3140, AT-3240, AD-3340, LLL-2930, EXT-2430, EXT-2440, and LLL-2331).

g. The CCUI/AOUI will log the TAC code and the instructor will log both the TAC code and the Mission Skill event(s) that applies. Initial TAC events shall be accomplished as a section, subsequent evolutions (when logged in conjunction with a Mission Skill) may be done single ship, based on the tactical scenario.

h. Mission Skill events shall be flown with operational ASE, installed .50 cals (as required for the tactical scenario), (rounds and expendables optional), whenever practical.

i. Initial attempts to complete Mission Skills should be made in the aircraft, subsequent attempts may be accomplished in the simulator.

j. As of the signing of this manual, the current HMH Core MCTs are as follows:

Aviation Operations from Expeditionary Shore-Based Sites (MCT 1.3.3.3.2) (EXP).

Combat Assault Transport (MCT 1.3.4.1) (AT).

Air Delivery (MCT 4.3.4) (AD).

Aviation Support of Tactical Recovery of Aircraft and Personnel (MCT 6.2.2.1) (TRAP).

Air Evacuation (MCT 6.2.2)(AE).

k. Crew Requirements. P/P/CC/AG.

3. Academic Training

a. Purpose. Prior to commencement of each event within the Mission Skill Phase the required academic syllabus shall be completed in accordance with this Manual and the MAWTS-1 CH-53 Course Catalog.

b. Upon completion, the CCUI/AOUI shall report to the designated representative(s), who will then manually update the training code in M-SHARP and log the academic/ground training event in section 3 (Aircrew Ground School Training) of the APR, using the Enlisted Aircrew Performance Record/Qualification Jacket Academic Tracker beginning on Pg 3-164 of this document.

c. 2000-6000 classes are located at the MAWTS-1 NIPR website under ASD, CH-53, T&R:

https://www.intranet.tecom.usmc.mil/sites/mawts1/default.aspx

d. SIPR 2000-6000 classes are located at the MAWTS-1 SIPR website under ASD, CH-53, T&R:

http://www.mawts1.usmc.smil.mil/

MISSION SKILL PHASE (3000)
ACAD-3002 (U) NEO EXECUTION
ACAD-3004 (S) PERSONNEL RECOVERY

ACAD-3005 (S) CH-53 SPECIFIC TRAP TTPS
ACAD-3006 (U) CASEVAC

4. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Core Mission Skill Phase.

Academic: See event
Flight: LLL-2930, XMAG-2841 or GAUAG-2843
Designation: NSQ-LLL, AGQ

5. Flight Events

EXP-3140 2.0 365 B,R 1+ CH-53 A/S (NS)

Goal. Demonstrate the capability to operate from a shore-based site under a low to medium threat environment.

MCT 1.3.3.3.2 Marine aviation units maintain the capability to operate from expeditionary shore-based sites (in line with unit/platform capabilities) to include Forward Operating Bases (FOBs), Expeditionary Airfields (EAFs), Forward Arming and Refueling Points (FARPS), austere forward operating sites, Tactical Landing Zones (TLZ), Helicopter Landing Zones (HLZs), etc. The Marine Air Traffic Control Mobile Team (MMT) can support operations at expeditionary shore-based sites by providing initial rapid response air traffic control (ATC), and command, control, and communications (C3). (JP 3-1, NDP 1, MCWP 3-2, MCWP 3-25.8)

Requirements.

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
Same as 2920.
MMT operations.
EAF, FOB, FARP, LAAGER site operations.

Performance Standard. Plan, brief and execute a tactical mission to or from expeditionary shore-based (Airbase, EAF, FOB, COB, FARP, LAAGER site). Ensure aircrew properly plan for and demonstrate knowledge of the requirements of operating in an austere environment.

Prerequisite. NSQ LLL, AGQ

Ordnance. Two .50 cal machine guns are required (Tail gun is Optional). Rounds and firing of the machine guns are opitional.

Range Requirement. Live fire range as required.

External Syllabus Support. MMT for airspace control is preferred. AGS for expeditionary shore-based site setup preferred.

AT-3240 2.0 365 B,R 1+ CH-53 A/S (NS)

Goal. Demonstrate the capability to conduct assault transport operations in a low to medium threat environment.

MCT 1.3.4.1 Aviation combat assault transport operations provides mobility to the MAGTF. It is used to deploy forces (air-landed or air-delivered) efficiently in offensive maneuver warfare, bypass obstacles, or quickly redeploy forces. Combat assault support allows the MAGTF Commander to build up his forces rapidly at a specific time and location, and allows him to apply and sustain combat power and strike the enemy where he is unprepared. This function comprises those actions required for the airlift of personnel, supplies and equipment into or within the battle area by helicopter, tiltrotor or fixed-wing aircraft. (JP 3-0, 4-0, MCWP 3-2, MAWTS-1)

Requirements

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Performance Standard. Plan, brief and execute a tactical assault support mission (MARLOG, general support, NEO, resupply, insert, extract). If an L-Hour is utilized arrive in the LZ +/- 30 sec in the best position to support the ground combat element. Demonstrate a thorough understanding of objective area mechanics, command and control procedures, and fire support control measures.

Prerequisite. NSQ LLL, AGQ

Ordnance. Two .50 cal machine guns are required (Tail gun is Optional). Rounds and firing of the machine guns are opitional.

Range Requirement. Live fire range as required.

External Syllabus Support. Escort and/or Command and Control aircraft are preferred if available. Ground combat element preferred if available.

AD-3340 2.0 365 B,R 1+ CH-53 A/S (NS)

Goal. Demonstrate the ability to conduct air delivery in a low to medium threat environment.

MCT 4.3.4 Air delivery is in-flight transportation of equipment and supplies to remote areas or expeditionary sites [tactical landing zones, austere forward operating sites, Naval shipping, Forward Operating Bases (FOBs), Expeditionary Airfields (EAFs), Forward Arming and Refueling Points (FARPs), etc.]. Air delivery operations are performed by fixed-wing, tiltrotor or rotary-wing aircraft. Delivery can be accomplished with aircraft internal/external loads, or loads can be air dropped using

specially rigged aerial delivery equipment and systems. Air drops are normally used when surface of helicopter transports cannot be used because of range, closed lines of communications, a lack of adequate airfields, a prohibitive ground tactical situation, high tonnage, or reduced response time. The Helicopter Support Team (HST) may be used during air delivery operations. Air delivery operations require detailed planning and integration at all levels and must support units in a rapidly changing environment.

Requirements

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
Same as EXT-2440.
Same as HIE-4141 or HIE-4110 (as required).

Performance Standard. Plan, brief and execute a tactical aerial delivery mission (External operations or HIE) in a low to medium threat environment. If an L-hour is utilized, arrive in the LZ +/- 30 sec.

Prerequisite. Aircrew must be proficient in the appropriate aerial delivery method being executed. NSQ LLL, AGQ

Ordnance. Two .50 cal machine guns are required (Tail gun is Optional). Rounds and firing of the machine guns are opitional.

Range Requirement. Live fire range and approved drop zone as required.

External Syllabus Support. HST. Jump master and ground safety personnel as required.

TRAP-3440 2.0 365 B,R 1+ CH-53 A/S (NS)

Goal. Demonstrate the ability to conduct Tactical Recovery of Aircraft and Personnel (TRAP) in a low to medium threat environment.

MCT 6.2.2.1 Tactical Recovery of Aircraft and Personnel (TRAP) is performed for the specific purpose of the recovery of personnel, equipment, and/or aircraft. TRAP is conducted to locate and extract distressed personnel and sensitive equipment from enemy controlled area during wartime or contingency operations to prevent capture. TRAP is performed by an assigned and briefed aircrew and is a subcomponent of combat search and rescue (CSAR) and/or joint combat search and rescue (JCSAR) missions, but is only executed once the location of survivors is confirmed. A TRAP mission may include personnel to conduct the search portion of CSAR or the over water portion of search and rescue missions. The composition of a tactical recovery mission may vary from a single aircraft and aircrew to an assault support mission package that consists of multiple fixed-wing and rotary-wing aircraft

with an onboard compliment of security, ground search, and medical personnel. (JP 1, 3-0, 3-50.2, MCWP 2-6, 3-2, 3-11.4, 3-24, 3-25.4, NDP 1, NWP 3-05**)**

Requirements

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
TRAP template from ASTACSOP.
ISR employment.
Rescort considerations.
Rescue vehicle responsibilities.
ISOPREP verification considerations.
RMC command and control considerations.
Survival Radio operation.
ACEOI

Performance Standard. Plan, brief and execute a TRAP mission. Properly employ TRAP template. Effectively communicate with Isolated Personnel, Rescort, RMC and other supporting aircraft.

Prerequisite. NSQ LLL, AGQ, ACAD-3004, ACAD-3005.

Ordnance. Two .50 cal machine guns are required (Tail gun is Optional). Rounds and firing of the machine guns are opitional.

Range Requirement. Live fire range as required.

External Syllabus Support.
Escort and/or Command and Control aircraft are preferred if available.
Isolated personnel in the objective area is preferred.
Use of survival radios is preferred.
Ground combat element is preferred if available.

AE-3540 2.0 365 B,R 1+ CH-53 A/S (NS)

Goal. Demonstrate the ability to conduct an air evacuation operation in a low to medium threat environment.

MCT 6.2.2 Air evacuation is the transportation of personnel and equipment from areas of operations to secure rear areas, to include casualty evacuations (CASEVAC), extraction of forces, or civilians. Transport helicopters, tiltrotor, and fixed-wing transport aircraft perform air evacuations. (JP 3-10.1, MCDP 1-0, MCWP 3-2, 3-11.4, 3-16, 3-24, 3-25, 3-27, 3-36)

Requirements.

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
Casualty priorities.
Medical facility levels.
Aircraft configuration considerations.

Performance Standard. Plan, brief and execute a tactical air evacuation mission. If an L-Hour is utilized arrive in the LZ +/- 30 sec in a position to best support the ground combat element.

Prerequisite. NSQ LLL, AGQ, ACAD-3002, ACAD-3006.

Ordnance. Two .50 cal machine guns are required (Tail gun is Optional). Rounds and firing of the machine guns are opitional.

Range Requirement. Live fire range as required.

313. CORE PLUS SKILL PHASE (4000)

1. Purpose. To introduce and develop proficiency in the execution of the Core Plus Skills and Missions required as a crew chief/aerial observer within a Marine Heavy Helicopter Squadron (HMH). Core Plus skills have a low probability of execution or are theater specific and are not included in the unit readiness evaluation.

2. General

a. All Core Plus Mission events shall follow the guideline of the Mission Skill section.

b. Stages. The following stages are included in the Core Skill Plus Phase of training.

(4000) Core Plus Phase Academics
(4100) Helicopter Insertion and Extraction Techniques
(4200) Aviation Delivered Ground Refueling (ADGR)
(4400) Terrain Flight Externals (TERF EXT)
(4500) Defensive Measures / Ground Threat Reaction
(4600) Chemical, Biological, Radiation, Nuclear
(4700) Carrier Qualification
(4800) Tail Gunnery / Moving Target Gunnery
(4900) Tactics & Core Plus Mission Skills

c. Conditions. Within the stages all training codes are further broken down according to ambient conditions.

(XX00) Sim
(XX10) Daylight
(XX20) High Light Level
(XX30) Low Light Level
(XX40) Can be done High or Low Light Level

3. Ground/Academic Training

a. Purpose. Within the Core Plus Skill Phase the required academic syllabus shall be completed in accordance with this Manual and the MAWTS-1 CH-53 Course Catalog.

b. Upon completion, the CCUI/AOUI shall report to the designated representative(s), who will then manually update the training code in M-SHARP and log the academic/ground training event in section 3 (Aircrew Ground School Training) of the APR, using the Enlisted Aircrew Performance Record/Qualification Jacket Academic Tracker beginning on Pg 3-164 of this document.

c. 2000-6000 classes are located at the MAWTS-1 NIPR website under ASD, CH-53, T&R:

https://www.intranet.tecom.usmc.mil/sites/mawts1/default.aspx

d. SIPR 2000-6000 classes are located at the MAWTS-1 SIPR website under ASD, CH-53, T&R:

http://www.mawts1.usmc.smil.mil/

CORE PLUS SKILL PHASE (4000)

ACAD-4011	(U) EA Aviation Ground Delivered Refueling TBFDS (CH-53E) / MK-105 (CH-53D)
ACAD-4050	(U) EA Basic principles of electronic warfare
ACAD-4051	(U) EA Defensive measures
ACAD-4052	(U) EA Defensive measures part 2 (CH-53)
ACAD-4053	(U) EA Training the tail gunner

4. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Core Plus Skill Phase.

Academic: See event
Flight: CSIX-1902
Designation: CC / AO

5. Helicopter Insertion/Extraction Techniques (HIE)

a. Purpose. To develop proficiency with insertion/extraction methods required in executing special missions by emphasizing rappelling, fast-rope, Special Insertion/Extraction (SPIE), helo casting, and aerial delivery.

b. General. The CC shall conduct a brief with the specific team leader, then the entire team prior to take off to discuss mission requirements and aircraft safety procedures. An NSI required if flown at night and aircrew are not qualified in appropriate light level.

c. Crew Requirement. P/P/CC/AO.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

SHIE-4100 1.5 * B 1 STATIC A/C / PTT S D

Goal. Introduce procedures for tactical insertion and/or extraction of a ground force via rappelling, fast-rope, SPIE, helocast and paraops.

Requirement

Discuss:
CRM.
Safety procedures.
Hand and arm signals.
Obstacle clearance.
Associated equipment.
Emergency procedures.
Cabin preparation.

Introduce:
Tactical insertions.
Techniques for inserting personnel by fast-rope.
Rappelling.
SPIE rig.
Helocast.
Paraops.

Performance Standards. Perform tactical insertion and/or extraction of a ground force via rappelling, fast-rope, SPIE, Helocast and Paraops. IAW applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. INT-2106, CAL 2210.

External Syllabus Support. Cabin part task trainer.

HIE-4110 1.5 * B,R 1 CH-53 A D

Goal. Introduce procedures for tactical insertion helocast.

Requirement

Discuss:
CRM.
Safety procedures.
Hand and arm signals.
Obstacle clearance.
Associated equipment.
Emergency procedures.
Cabin preparation.

Introduce:
Techniques for inserting personnel by helocast.

Performance Standards. Demonstrate procedures for a tactical insertion via helocast IAW applicable ANTTP 3-22.3-53.

Prerequisite. TERFQ, INT-2106 and HIE-4100

HIE-4140 1.5 * B,R,SC 1 CH-53 A (NS)

Goal. Introduce procedures for tactical insertion and/or extraction of a ground force via rappelling, fast-rope or SPIE.

Requirement
Instructor:
NSI required if not NS qualified in the light level event

is conducted.

Discuss:
NS considerations if applicable.
CRM.
Safety procedures.
Hand and arm signals.
Obstacle clearance.
Associated equipment.
Emergency procedures.
Cabin preparation.

Introduce:
Tactical insertions.
Techniques for inserting personnel by fast-rope.
Rappelling.
SPIE rig.

Performance Standards. Perform tactical insertion and/or extraction of a ground force via rappelling, fast-rope or SPIE IAW applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. CAL-2210, (HLL-2920 if HLL or LLL-2930 if LLL), HIE-4100.

External Syllabus Support. Fast rope bar.

HIE-4141 1.5 * B,R 1 CH-53 A (NS)

Goal. Introduce procedures for tactical insertion via paraops.

Requirement

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
NS considerations if applicable.
CRM.
Safety procedures.
Hand and arm signals.
Ground signals.
Obstacle clearance.
Associated equipment.
Emergency procedures.
Cabin preparation.

Introduce:
Techniques for inserting personnel by paraops.

Performance Standards. Perform procedures for tactical insertion via paraops IAW applicable ANTTP 3-22.3-53.

Prerequisite. HLL-2920 if HLL or LLL-2930 if LLL, HIE-4100.

6. Aviation Delivered Ground Refueling (ADGR)

a. Purpose. To introduce aircrew duties in loading, securing,

unloading, internal procedures and use of the Tactical Bulk Fuel Delivery System (TBFDS) for the CH-53E and the MK-105 for the CH-53D.

b. Crew Requirement. P/P/CC/AO.

c. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

SADGR-4200 1.5 * B,SC 1 STATIC A/C / PTT S (NS)

Goal. Review internal procedures and introduce use of the TBFDS/MK-105.

Requirement

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
Installation considerations for TBFDS/MK-105.
Procedures for refueling other types of aircraft and/or vehicles.
Rapid Ground Refueling/FARP procedures to include preflight, taxi of aircraft, mechanical configuration, lighting configurations, post flight and clean up.
Fire fighting equipment and procedures for particular TBFDS/MK-105 evolution.

Introduce:
Proper restraint system and loading scenarios for different tank setups and fuel line configuration.

Performance Standards. Demonstrate knowledge of TBFDS/MK-105 setup and refueling operations as outlined in the ANTTP 3-22.3-53 and ADGR APCL-CH53.

Prerequisite. INT-2105, ACAD 4011.

External Syllabus Support. Cabin part task trainer.

ADGR-4240 1.5 365 B,R,SC 1 CH-53 A (NS)

Goal. Review internal procedures and introduce use of the TBFDS/MK-105.

Requirement

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
Installation considerations for TBFDS/MK-105.
Procedures for refueling other types of aircraft and/or vehicles.
Rapid Ground Refueling/FARP procedures to include preflight, taxiing aircraft, mechanical configuration, lighting configurations, post flight and clean up.

Fire fighting equipment and procedures for particular TBFDS/MK-105 evolution.

Introduce:
Proper restraint system and loading scenarios for different tank setups and fuel line configuration.

Performance Standards. Demonstrate knowledge of TBFDS setup and refueling operations as outlined in the ANTTP 3-22.3-53 and ADGR APCL-CH53.

Prerequisite. INT-2105, CAL-2210, (HLL-2920 if HLL or LLL-2930 if LLL), ACAD-4011, ADGR-4200.

External Syllabus Support. Ground or RW assets to refuel.

7. Terrain Flight External Loads (TERF EXT)

a. Purpose. To develop skills necessary for operating with external loads in all ambient conditions in the terrain flight regime.

b. General

(1) Review operational and safety considerations discussed in the appropriate NATOPS Flight Manual, ANTTP series and MCRP 4-11.3E and Multi-Service Helicopter Sling Load Manual.

(2) TERFI required for EXT-4412 initial, refresher or when not TERF qualified.

(3) NSI required for EXT-4440 initial, refresher or when not NS qualified in light level event is conducted.

c. Crew Requirement. P/P/CC/AO.

d. Academic Training. The MAWTS-1 CH-53 Course Catalog contains the required readings, lectures and chalk talks which shall be completed IAW the External stage event descriptions.

e. The following events/designations are prerequisites prior to the commencement of the Terrain Flight External stage:

Academic: ACAD-2011, 2012, 2014, 2021
Flight: 2411, 2421, 2430.
Designation/Qualification: CC/AO

STERF EXT-4412 1.5 365 B,R EAT S/A D

Goal. Introduce and practice external operations in the TERF environment.

Requirement

Instructor:
TERFI required for initial flights, refreshers or when not TERF qualified.

Discuss:
- Emergency procedures.
- Aircrew responsibilities during TERF flight.
- Cargo pendant release procedures.
- Varying hookup options.
- Load length considerations for TERF flight.
- Safety considerations.
- Radar altimeter usage.

Introduce:
- Practice single or dual point external cargo carrying operations in a TERF environment.

Performance Standards. Perform external operations in the TERF environment IAW applicable NATOPS and ANTTP 3-22.3-53. Maintain situational awareness with regards to load clearance while conducting TERF maneuvers. Minimum of 1 pickup and delivery required.

Prerequisite. TERF-2310, EXT-2410 or EXT-2411 if dual points are utilized.

Range Requirements. Approved CAL/MAL site.

External Syllabus Support. EAT. HST, certified load if in the aircraft.

STERF EXT-4440 1.5 180 B,R EAT S/A NS

Goal. Introduce external operations in the TERF profiles using NS in any ambient light level condition.

Requirement

Instructor:
- NSI required for initial flights, refreshers or if aircrew as not NS qualified in the light level which the event is flown.

Review:
- Safety precautions.
- External cargo lighting patterns.
- Use of chem lights on external pendant and the external load.
- Blowing debris.
- Load rigging.
- Obstacle clearance on approach to and departure from the drop zone.
- Radar altimeter usage.

Discuss:
- HLL or LLL NS considerations as applicable.
- CRM.
- Flight with dual point external loads (if required).
- Load stability.
- Standard terminology.
- Load rigging.
- Aircraft clearances.
- Load clearances.

Introduce:
External operations using NS in the TERF environment.

Performance Standards. Demonstrate proficiency of external operations using NS while operating in the TERF environment as outlined in the applicable NATOPS and ANTTP 3-22.3-53. Minimum of 1 pickup and delivery required.

Prerequisite. TERF-2320 and EXT-2420 if HLL or TERF-2330 and EXT-2430 if LLL. EXT-2421 if dual points are utilized.

Range Requirements. Approved CAL/MAL site. Approved TERF maneuver area/route.

External Syllabus Support. EAT. HST, certified load if in aircraft.

8. Defensive Measures (DM)

a. Purpose. To introduce aircrew responsibilities during section DM against helicopter and fixed-wing aggressor aircraft. Upon completion of this stage the aircrew should have an understanding of the maneuvers and employment techniques necessary to counter air-to-air threat. Aircrew may be designated DMQ by the commanding officer after completing DM-4510 and DM-4511.

b. Crew Requirement. P/P/CC/AO.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

DM-4510 1.5 365 B,R 2 CH-53 A D

Goal. Introduce and practice aircrew responsibilities as a section against an adversary helicopter.

Requirement

Instructor:
DMI required for initial flights, refreshers or when not DM qualified.

Discuss:
Lookout doctrine.
Attack Warning.
Standard terminology.
Section maneuvering.
CRM.
Aircraft limitations.

Introduce:
Section helicopter DM against an adversary helicopter attacking from prebriefed and unknown locations.

Performance Standards. Demonstrate knowledge of attack warning and tactical maneuvers as stated in the MAWTS-1 DM

Manual and NTTP 3-22.3-CH53.

Prerequisite. TERF-2311, ACAD-4051, ACAD-4052.

Ordnance. 60 flares and 2 .50 Cal machine guns.

Range Requirements. Expendable capable range. TERF maneuver area/route.

External Syllabus Support. Rotary wing aggressor.

DM-4511 1.5 365 B,R 2 CH-53 A D

Goal. Introduce and practice aircrew responsibilities in a section against a fixed wing adversary.

Requirement

Instructor:
DMI required for initial flights, refreshers or when not DM qualified.

Discuss:
Fixed wing attack.
Tactical maneuvers.

Practice:
Section helicopter DM against a fixed wing adversary attacking from pre-briefed and unknown locations.

Performance Standards. Demonstrate proficiency of Attack Warning and tactical maneuvers as stated in the MAWTS-1 DM Manual and NTTP 3-22.3-CH53.

Prerequisite. TERF-2311, ACAD-4051, ACAD-4052.

Ordnance. 60 flares or 30 chaff/30 flares and 2 .50 Cal machine guns.

Range Requirements. Expendable capable range. TERF maneuver area/route.

External Syllabus Support. Fixed wing aggressor.

9. Ground Threat Reaction (GTR)

a. Purpose. To introduce aircrew responsibilities during Electronic Warefare (EW) tactics in a medium threat environment. Upon completion of this stage aircrew should have an understanding of the maneuvers and employment techniques necessary to counter a low altitude surface-to-air radar threats.

b. Crew Requirement. P/P/CC/AO.

c. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

GTR-4540 1.5 365 B,R 2 CH-53 A (NS)

Goal. Introduce and practice aircrew responsibilities while operating in a radar threat environment. Practice basic operations and procedures for ASE gear.

Requirement

Instructor:
WTI or DMI is required for initial flights and refreshers.
WTI or DMI that is also an NSI is required if not NS qualified in the light level the event is conducted.

Discuss:
ASE gear.
CRM.
Section tactics.
Low altitude emergencies.
Use of RADAR horizons and RADAR masking techniques as they relate to specific air defense systems.

Introduce:
RADAR guided threats on EW range if available.
GTR while dispersing chaff and flares.

Performance Standards. Demonstrate basic knowledge of Attack Warning and helicopter tactics against a low altitude surface-to-air radar threats IAW the ANTTP 3-22.3-53.

Prerequisite. TERF-2311 if flown day, HLL-2321 if flown HLL or LLL-2331 if flown LLL, ACAD-4050.

Ordnance. 30 chaff, 30 flares and 2 .50 Cal machine guns.

Range Requirements. Expendable capable range. TERF maneuver area/route.

External Syllabus Support. Ground emitter.

10. Chemical, Biological, Radiation and Nuclear (CBRN)

a. Purpose. To conduct flight operations while wearing CBRN protective equipment.

b. General. For the safe execution of initial CBRN flights, 1 pilot and 1 aircrew shall remain unmasked.

c. Crew Requirement. P/P/CC/AO.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

SCBRN-4640 1.5 * B 1 MCAT / CH-53 S/A (NS)

Goal. Introduce flight in a simulated CBRN environment with a NAVAIR approved gas mask.

Requirement

Instructor:
NSI required for initial flights or when not NS qualified in the light level the event is conducted.

Discuss:
Chemical agents.
Biological agents.
Fatigue.
Distortion of vision while using the gas mask.

Demonstrate:
A portion of preflight wearing full CBRN equipment.

Introduce:
Donning of the chemical suit and gas mask.
Wearing of mask during taxi, low work takeoff and landings.

Performance Standards. Perform flight in a simulated CBRN environment wearing NAVAIR approved gas masks IAW applicable NATOPS and ANTTP 3-22.3-53.

Prerequisite. CAL-2210 if flown day, HLL-2220 if flown HLL or LLL-2230 if flown LLL.

11. Carrier Qualification (CQ)

a. Purpose. To develop procedures and CRM required for shipboard operations. To qualify aircrew in day and night shipboard operations.

b. General. Discuss and become familiar with all aspects of shipboard operations and CRM applicable to the carrier qualification stage as described in the appropriate NATOPS Flight Manual, NWP-42, the LHA/LPH/LHD NATOPS, and OPNAVINST 3710. Each event requires 5 successful landings. Initial NS CQ's shall be accomplished under HLL conditions. Re-qualification and proficiency training may be accomplished under any light level condition. Any aircrew receiving initial qualification shall be NSQ HLL. Currency restriction's per T&R manual.

c. Crew Requirement. CQ-4711: P/P/CC. CQ-4743: P/P/CC/AO. NS flights require 2 qualified crewmembers if not an instructional flight.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

CQ-4711 1.5 365 B,R 1 CH-53 A D

Goal. Introduce day CQs.

Requirement
Discuss:
Shipboard operations.
Aircraft clearance.
CRM.
Hand and arm signals.
Safety procedures.
Ditching procedures.
Emergency procedures.

Performance Standards. Perform 5 day CQs IAW appropriate shipboard NATOPS.

Prerequisite. FCLP-2710.

External Syllabus Support. Helicopter capable ship.

CQ-4743 1.5 365 B,R 1 CH-53 A NS

Goal. Introduce NS CQs.

Requirement

Instructor:
NSI required when not NS qualified in the light level event is conducted.

Discuss:
NS considerations for appropriate light level.
Shipboard operations.
Shipboard lighting.
Aircraft clearance.
CRM.
Hand and arm signals.
Safety procedures.
Ditching procedures.
Emergency procedures.

Performance Standards. Perform 5 night systems CQs IAW appropriate shipboard NATOPS.

Prerequisite. NSQ HLL, FCLP-2742, and CQ-4711.

External Syllabus Support. NS compatible helicopter capable ship.

12. Tail Gunnery (TG)

a. Purpose. To conduct aerial gunnery training using the Ramp Mounted Weapons System (RMWS) for the Tail Gunner (TG).

b. General

(1) Individuals successfully completing TG-4840 may be issued a TG qualification letter from the Commanding Officer.

(2) AG qualification on either XM-218 or GAU-21, is a prerequisite for TG-4810.

(3) Approved laser aiming devices are required for TG-4840.

(4) Tail gunnery introductory lectures and initial instructional flights shall be conducted by a TGI.

(5) Completion of the entire AG course cannot be waived or deferred.

(6) At least 1 aircrew shall possess a current copy of the NTRP 3-22.4 CH53 APP F. This document will no longer be required once incorporated into the NFM-900 Aircrew Pocket Checklist.

c. Crew Requirements. P/P/CC/AG/TG.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

TG-4810 1.5 365 B,R 1 CH-53 A D

Goal. Introduce RMWS operational considerations, safety precautions, and crew coordination for conducting multi-crew served weapons operations during the day.

Requirement

Instructor:
TGI required for initial flights and refreshers.

Discuss:
RMWS configuration with cargo loading and unloading.
Use and configuration of aircrew restraint system.
Conventional weapons checklist.
Sectors of fire.
Aiming techniques.
Target hand-off.
Crew coordination.
Range considerations.
Weapon capabilities.
Firing in landing profile.
Weapon malfunctions.
Burst rates.

Introduce:
Preflight and nomenclature.
Safety procedures associated with ordnance evolutions.
Sectors of fire.
Interlocking fields of fire and target hand-off.
Ordnance loading.
Weapons employment/delivery from the rear hemisphere.
Burst rates.
Flight profiles (running, hovering, landing).
Reloading procedures.
Post flight.

Practice:
Troubleshooting.
Burst rates.
ICS procedures.
Aiming techniques.
Weapons employment/delivery from the rear hemisphere.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the RMWS IAW the conventional weapons checklist. Demonstrate the ability to

engage multiple pre-briefed scoreable targets, while maintaining positive weapons handling, control, and ICS procedures. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisites. AGQ, ACAD-2055, ACAD-4053.

Ordnance. 1500 rounds .50 Cal, RMWS and 3 .50 Cal machine guns. 500 rounds per weapon.

Range Requirements. Aerial gunnery range with SDZ approved for .50 CAL for day shooting. Targets should range in size from personnel targets to APC size targets.

TG-4811 1.5 365 B,R 2 CH-53 A D

Goal. Practice RMWS employment during a day section aerial gunnery flight.

Requirement

Instructor:
TGI required for initial flights and refreshers.

Discuss:
Wingman NFAs.
Crew coordination.
Section responsibilities.
RMWS scan pattern.
Sectors of fire.
Target hand-off within a section.

Introduce:
Aiming techniques in a section.
RMWS scan pattern.
Wingman NFAs.
Weapons control in a section.
Target hand-off within a section.

Practice:
RMWS scan pattern.
Wingman NFAs.
Aiming techniques in a section.
Weapons control in a section.
Weapons employment/delivery from the rear hemisphere in a section.
Weapon reloading procedures.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the RMWS IAW the

conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed targets, while maintaining positive weapons handling, control and ICS procedures during

multi ship operations. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisites. TG-4810.

Ordnance. 1500 rounds .50 Cal and 3 .50 Cal machine guns. 500 rounds per weapon.

Range Requirements. Aerial gunnery range with SDZ approved for .50 cal for day shooting. Targets should range in size from personnel targets to APC size targets.

TG-4840 1.5 365 B,R 2 CH-53 A NS

Goal. Introduce RMWS operational considerations, safety precautions, and crew coordination for conducting multi-crew served weapons operations during a section night aerial gunnery flight while utilizing NS.

Requirement

Instructor:
TGI required for initial flights and refreshers. TGI/NSI is required when not NS qualified in the light level event is conducted.

Discuss:
Crew coordination while utilizing NS.
Section responsibilities while utilizing NS.
Sectors of fire while utilizing NS.
Target hand-off while utilizing NS.
Effects of chaff and flares while utilizing NS on the RMWS.
Acquisition/engagement while utilizing NS.
Laser safety/employment/setup.
RMWS scan pattern while utilizing NS.

Introduce:
Aiming techniques in a section while utilizing NS.
Weapons control in a section while utilizing NS.
Effects of chaff and flares while utilizing NS.
Acquisition/engagement while utilizing NS.
Laser safety/employment/setup.
RMWS scan pattern while utilizing NS.

Practice:
Aiming techniques in a section while utilizing NS.

Weapons control in a section while utilizing NS.
Interlocking fields of fire while utilizing NS.
Weapons employment/delivery from the rear hemisphere in a section night shoot while observing wingman NFA's.
Weapon reloading procedures while utilizing NS.

Performance Standards. Demonstrate the appropriate aerial gunnery techniques while employing the RMWS with approved laser aiming device IAW the conventional weapons checklist. Demonstrate the ability to engage multiple pre-briefed targets, while maintaining positive weapons handling, control and ICS procedures during multiple aircraft operations utilizing NS. Point of aim, point of impact shall be within the following parameters

>1500 meter range 50% or more of impacts within a 50 meter diameter of target
1000 meter range 70% or more of impacts within a 25 meter diameter of target
<500 meter range 70% or more of impacts within a 15 meter diameter of target

Prerequisites. TG-4811.

Ordnance. 1500 rounds .50 Cal and 3 .50 Cal machine guns. 500 rounds per weapon. Chaff and flare mix (overt and covert). Approved laser aiming device.

Range Requirements. Laser safe aerial gunnery range with SDZ approved for .50 CAL for night shooting. Targets should range in size from personnel targets to APC size targets.

13. Moving Target Gunnery (MTG)

a. Purpose. To introduce techniques and profiles in conducting MTG.

b. General

(1) Aircrews shall fly this stage IAW ANTTP 3-22.3-53. An AGI is required for initial flights and when the aircrew are not designated aerial gunners.

(2) At least 1 aircrew shall possess a current copy of the NTRP 3-22.4 CH53 APP F. This document will no longer be required once incorporated into the NFM-900 Aircrew Pocket Checklist.

(3) If NS are utilized, a NSI/AGI is required on initial flight.

(4) Laser aiming devices are required if event is flown at night.

c. Crew Requirements. P/P/CC/AG.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

MTG-4841	1.5	365	B,R	1+	CH-53	A/S	(NS)

Goal. Introduce MTG. Moving land target preferred method. Requirement

Instructor:
AGI on respective weapon required for initial flights or when not aerial gunner qualified. AGI/NSI is required when not NS qualified in the light level event is conducted.

Discuss:
- Aiming techniques.
- Lead compensation.
- Safety procedures.
- Laser aiming devices.

Introduce:
- Applicable MTG.
- Shadow gunnery.
- Towed banner.
- Dart.
- Moving land target.

Performance Standards. Demonstrate understanding of MTG as stated in the ANTTP 3-22.3-53.

Prerequisite. XMAG-2810 if the XM-218 is utilized or GAUAG-2812 if the GAU-21 is utilized during the day. XMAG-2840 if the XM-218 is utilized or GAUAG-2842 if the GAU-21 is utilized at night utilizing NS.

Ordnance. 500 rds .50 Cal. per crew member and 2 .50 Cal machine guns.

Range Requirements. Live fire AG range (.50 Cal). Laser approved range if flown at night.

External Syllabus Support. Approved moving target

14. Tactics (TAC)

a. Purpose. To conduct practical application exercises using skills developed through the syllabus. These exercises will include planning, briefing, and execution of an assault support mission in a low to medium threat environment.

b. General. Aircrew may conduct these flights in high or low light level conditions.

c. Crew Requirement. P/P/CC/AO.

d. Ground/Academic Training. All self paced readings and lectures shall be completed prior to stage initiation. Utilize academic courseware as outlined in the CH-53 chapter of the MAWTS-1 Course Catalog.

TAC-4940 2.0 365 B,R 3+ CH-53 A (NS)

Goal. Develop integrated tactical flight proficiency in a low to medium threat environment within a division.

Requirement

Instructor:
NSI required when not NS qualified in the light level which the event is conducted.
AGI required if rounds are utilized not AG qualified.

Review:
TAC-2910

Discuss:
Escort integration, i.e. Battle Positions.
Sectors of fire consideration for entire flight.
Section responsibilities, i.e. free/engaged aircraft.
Operations in LZ.

Introduce:
Escort integration, i.e. Battle Positions.
Sectors of fire consideration for entire flight.
Section Responsibilities, i.e. free/engaged aircraft.
Operations in LZ.

Performance Standards. Demonstrate proficiency in multi-aircraft flight in a low to medium threat environment as stated in the ANTTP 3-22.3-53. Demonstrate knowledge / usage of mission planning products.

Prerequisite. TAC-2911, HLL-2920 if flown HLL or LLL-2930 if flown LLL.

Ordnance. Two .50 Cal machine guns are required. Rounds and firing of machine guns are optional.

External Syllabus Support. Assault support escort aircraft if available.

TAC-4941 2.0 365 B,R 2 CH-53 A NS

Goal. Develop tactical flight proficiency in urban terrain operations at night.

Requirement

Instructor:
NSI required when not NS qualified in the light level which the event is conducted.

Review:
TAC-2910

Discuss:
Effects of ambient lighting on night systems in an urban area.
Obstacle clearance in urban area.

Scan techniques in urban area, i.e. dense vegetation scan.

Introduce:
Effects of ambient lighting on night systems in an urban area.
Obstacle clearance in urban area.
Scan techniques in urban area, i.e. dense vegetation scan.

Performance Standards. Demonstrate understanding of CH-53 operations in urban areas as stated in the MAWTS-1 MOUT Manual. Demonstrate knowledge / usage of mission planning products.

Prerequisite. HLL-2920 if flown HLL or LLL-2930 if flown LLL.

Ordnance. Two .50 Cal machine guns are required. Rounds and firing of machine guns are optional.

Syllabus Support. Assault support escort aircraft if available.

314. MISSION PLUS SKILL PHASE (4000)

1. Purpose. To plan, brief and execute Missions Plus Skills in a low to medium threat environment.

2. General

a. All WTIs, NSIs, and those aircrew designated by the squadron commanding officer, will receive proficient status for all 4000 Mission Plus Skills events as of the signing of this T&R. Squadron operations personnel will be responsible for manually updating the Mission Plus Skills in M-SHARP for those personnel designated by the squadron commanding officer. No designation letter is required in the APR.

b. For initial, refresher or when the aircrew under instruction are not proficient in a particular Mission Plus Skill, training codes shall be given by an instructor that is proficient in that Mission Plus Skill event(s). Mission Plus Skill events should be given to all those aircrew (Pilots, Crew Chief, AO) within the aircraft that meet the prerequisite. Additionally, for larger flights, any flight lead, (SL,DL,AFL,AMC) that is proficient in that Mission Plus Skill can give the Mission Plus Skill training to all aircrew within the flight that meet the prerequisite.

c. It is the intent that all TACEX scenarios in the Mission Skill and Mission Plus Skill Phase be based on a minimum of one of the Mission Skills. If aircrew under instruction do not meet the prerequisite for the Mission Skill event, they will not log the Mission Skill event. However, the instructor of the Core Skill or Core Plus Skill TACEX will log both the Core Skill or Core Plus Skill event and the Mission Skill event (i.e: NSI logs a LLL-2930, AT-3340, and RAID-4980). CCUI/AOUI in the LLL syllabus logs a LLL-2930). Once aircrew have been designated NSQ LLL, all subsequent TACEXs should be coded with the appropriate Core Skill or Core Plus Skill and Mission Skill event or Mission Plus Skill event. Aircrew that are not proficient in a Core Skill or Core Plus Skill event may update both the Core Skill or Core Plus Skill and the Mission Skill or Mission Plus Skill event on the same sortie.

d. Prior to the commencement of this phase, aircrew under instruction shall be NSQ LLL and AGQ.

e. The aircrew under instruction should assist in the mission analysis, planning, briefing, execution and debriefing of each flight. Aircrew shall use the ANTTP series and NATOPS as source documents for planning, briefing, execution and debriefing.

f. Multiple Mission Skill and Mission Plus Skill training events may be logged per sortie (e.g. EXP-3240, AT-3340, AD-3540, RAID-4980, SEA-4982) as long as the requirement(s) is met for each code. Core Mission and Mission Plus Skill phase training events are intended to be flown and logged in conjunction with other T&R syllabus events (e.g. for aircrew: EXP-3140, AT-3240, AD-3340, RAID-4980, ADGR-4981, LLL-2930, EXT-2430, EXT-2440, and LLL-2331).

g. The CCUI/AOUI will log the TAC code and the instructor will log both the TAC code and the Mission Skill and/or Mission Plus Skill event(s) that applies. Initial TAC codes shall be accomplished as a section, subsequent evolutions (when logged in conjunction with a Mission Skill or Mission Plus Skill) may be done single ship, based on the tactical scenario.

h. Mission Plus Skill events shall be flown with operational ASE, .50 cals (as required for the tactical scenario) installed at a minimum (rounds and expendables optional), whenever practical.

i. Initial attempts to complete Mission Skills and Mission Plus Skills should be made in the aircraft, subsequent attempts may be accomplished in the simulator.

j. As of the signing of this manual, the current HMH Core MCTs are as follows:

MCT 1.3.4.1.1 Conduct Airborne Rapid Insertion/Extraction (RAID)
MCT 1.3.4.2.1 Provide Aviation-Delivered Ground Refueling (ADGR)
MCT 1.3.3.3.1 Aviation Operations from Expeditionary Sea-Based Sites (SEA)

k. Crew Requirements. P/P/CC/AG.

3. Academic Training. Upon completion, the CCUI/AOUI shall report to the designated representative(s), who will then manually update the training code in M-SHARP and log the academic/ground training event in section 3 (Aircrew Ground School Training) of the APR, using the Enlisted Aircrew Performance Record/Qualification Jacket Academic Tracker beginning on Pg 3-164 of this document.

4. Prerequisites. The following events/designations are prerequisites prior to the commencement of the Core Plus Tactics stage:

Academic: See event description
Flight: LLL-2930, XMAG-2841 or GAUAG-2843
Designation: NSQ LLL, AGQ

5. Flight Events

RAID-4980 2.0 365 B,R 1+ CH-53 / MCAT A/S (NS)

Goal. Demonstrate the ability to conduct tactical airborne Rapid insertion/extraction operations in a low to medium threat environment.

(MCT 1.3.4.1.1) Airborne rapid insertion/extraction is the planned insertion/movement of forces conducted rapidly followed by a planned and rapid withdrawal. Helicopter Rope Suspension Techniques (HRST) provides Marines with the ability to conduct insertions and extractions where landings are impractical. Airborne rapid insertion/extraction includes methods such as rappelling, fast rope, special patrol insertion and extractions, etc.
(MCWP3-2, 3-11.4, 3-24, MCRP 3-11.4A)

Requirements

Instructor:
NSI required if not NS qualified in the light level event is conducted.

There is no HRST requirement to conduct the RAID Mission Skill. Any planned insertion and extraction mission meets the requirement to log the RAID Mission Skill. Landing is the preferred method, HRST can be used as an additional insertion and/or extraction method when landing is impractical.

Discuss: Same as TAC-2930.

Performance Standard. Plan, brief and execute a tactical airborne rapid insertion/extraction mission.

Prerequisite. NSQ LLL and AGQ.

Ordnance. Two .50 cal machine guns are required (Tail gun is Optional). Rounds and firing of the machine guns are opitional.

Range Requirement. Suitable CAL/MAL site.

External Syllabus Support. HRST Master and ground safety Personnel if applicable.

ADGR-4981 2.0 365 B,R 1+ CH-53 / MCAT A/S (N)

Goal. Demonstrate the ability to provide aviation-delivered ground refueling to combat aircraft or tactical vehicles in a low to medium threat environment.

(MCT 1.3.4.2.1) Rapid ground refueling (RGR) is a method of providing fuel to aircraft and Tactical Ground Vehicles (TGV)

utilizing KC-130 and CH-53 aircraft in austere locations, where no other source of fuel is readily available. This method of refueling permits operation of fixed and rotary wing aircraft and TGV without the requirement to commit the significant logistical assets necessary to operate helicopter expeditionary refueling systems (HERS), or tactical airfield fuel dispensing systems (TAFDS). RGR can also quickly resupply established forward-arming and refueling (FARP) sites and Forward Operating Bases (FOB). The capability of the KC130/CH-53 to operate as a tactical ground refueler enhances MAGTF operations. (ANTTP 3-22.3-KC-130)

Requirements

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
TBFDS/MK-105 capabilities and considerations.
LZ markings.
Arm/De-Arm procedures and ordnance considerations.
Site security.
Aircraft sequencing and airspace considerations.

Performance Standard. Plan, brief and execute a tactical TBFDS or MK-105 refueling evolution.

Prerequisite. NSQ LLL, AGQ, ADGR-4240.

Ordnance. Two .50 cal machine guns are required (Tail gun is Optional). Rounds and firing of the machine guns are opitional.

Range Requirement. Live fire range as required.

External Syllabus Support. TBFDS/MK-105 system, escort, MMT and/or Command and Control aircraft are optional.

SEA-4982 2.0 365 B,R 1+ CH-53 / MCAT A/S (N)

Goal. Demonstrate the capability to operate from sea based sites IAW MCT 1.3.3.3.1.

MCT 1.3.3.3.1 Marine aviation units maintain the capability to operate from Naval shipping (amphibious platforms, carriers, etc.) in line with platform and unit capabilities. (JP 3-0, MCWP 3-2)

Requirement.
Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
CQ/FCLP.
Deck cycles.

Combat Cargo/troop loading considerations while in shipboard environments.
Airspace considerations.
IFF procedures.

Performance Standard. Plan, brief and execute a tactical mission to or from sea based site or FCLP pad. Ensure aircrew properly plans for and demonstrate knowledge of the particulars of operating in the shipboard environment.

Prerequisite. NSQ LLL, AGQ, Appropriate FCLP/CQ event.

Ordnance. Two .50 cal machine guns are required (Tail gun is Optional). Rounds and firing of the machine guns are opitional.

Range Requirement. Live fire range as required.

External Syllabus Support. Ship or FCLP pad as required.

315. INSTRUCTOR TRAINING PHASE (5000)

1. Crew Chief Instructor Under Training (CCIUT)

2. Fleet Operating Squadrons. For criteria concerning all instructor certifications and designations refer to T&R Program Manual. MAWTS-1 Course Catalog contains the academic and syllabus requirements for all instructor certifications.

3. Fleet Replacement Squadron Instructor CH-53E

a. Purpose. To develop proficiency in instructional procedures and techniques to support CC training.

b. General

(1) All instructors under training flights emphasize standardization of CC procedures and techniques. The CCIUT should be capable of demonstrating all training objectives associated with Core Skill Introduction flight instruction.

(2) IUT events 5100 through 5107 shall be complete prior to being designated a FRSIE. Upon completion of FRSIE-5107 and designation by the commanding officer, the FRSIE is capable of instructing all Core Skill Introduction phase events to include TERF events.

(3) FRSIE-5107 can be flown in conjunction with any Core Skill Introduction phase event.

c. Crew Requirement. P/P/FRSI/CCIUT.

FRSIE-5100 1.5 * 2 CH-53E A D

Goal. Demonstrate CC responsibilities and instructional techniques during day formation flight.

Requirement

Discuss:

Parade position.
Formations.
Closure rate.
Hand and arm signals.
In-flight emergency procedures.
Standard terminology.

Performance Standards. Demonstrate proper FRSIE responsibilities and instructional techniques during day formation flights IAW requirements outlined in this Chapter.

FRSIE-5101 1.5 * 2 CH-53E A NS

Goal. Demonstrate CC responsibilities and instructional techniques during night formation flight.

Requirement

Discuss:
Closure rate.
Aircraft lighting.
Light signals.
Lookout responsibilities.
Target fixation.
Standard terminology.
NS considerations.

Performance Standards. Demonstrate proper FRSIE responsibilities and instructional techniques during NS formation flights IAW requirements outlined in this Chapter.

FRSIE-5102 1.5 * 1 CH-53E A D

Goal. Demonstrate CC responsibilities and instructional techniques during CALs.

Requirement

Discuss:
CALs.
CRM.
Landing gear system failures.
Vibrations.
Engine failures in flight.

Performance Standards. Demonstrate proper FRSIE techniques and responsibilities for day CALs IAW requirements outlined in this Chapter.

Range Requirements. CAL/MAL site.

FRSIE-5103 1.5 * 1 CH-53E A NS

Goal. Demonstrate FRSIE responsibilities and instructional techniques during HLL NS CALs.

Requirement

Discuss:
NS.

NS considerations.
Lighting.
CALs.
CRM.
Landing gear system failures.
Vibrations.
Engine failures in flight.

Performance Standards. Demonstrate proper FRSIE techniques and responsibilities for HLL NS CALS IAW requirements outlined in this Chapter.

Range Requirements. CAL/MAL site.

FRSIE-5104 1.5 * 1 CH-53E A D

Goal. Demonstrate FRSI responsibilities and instructional techniques during day maneuvers and navigation while flying in the TERF environment.

Requirement

Discuss:
TERF maneuvers.
Aircraft clearances.
Standard terminology.
CALs.
CRM.
Landing gear system failures.
Vibrations.
Engine failures in flight.

Performance Standards. Demonstrate proper FRSIE techniques and responsibilities during maneuvers and navigation while flying in the TERF environment IAW requirements outlined in this Chapter.

Range Requirements. TERF maneuver area/route.

FRSIE-5105 1.5 * 1 CH-53E A D

Goal. Demonstrate FRSIE responsibilities and instructional techniques used during day single or dual point (53E) external operations.

Requirement

Discuss:
CC duties.
Standard terminology.
External operations.
CALs.
CRM.
Landing gear system failures.
Emergencies.

Performance Standards. Demonstrate proper FRSIE techniques and responsibilities used during external operations IAW requirements outlined in this Chapter.

Range Requirements. CAL/MAL site.

External Syllabus Support. HST, certified load.

FRSIE-5106 1.5 * 1 CH-53E A NS

Goal. Demonstrate FRSIE responsibilities and instructional techniques used during HLL NS external operations.

Requirement

Discuss:
- NS considerations.
- Lighting.
- CC duties.
- Standard terminology.
- External operations.
- CALs.
- CRM.
- Landing gear system failures.
- Emergencies.

Performance Standards. Demonstrate proper FRSI techniques and responsibilities used during HLL NS external operations IAW requirements outlined in this Chapter.

Range Requirements. Approved CAL/MAL site.

External Syllabus Support. HST, certified load.

FRSIE-5107 1.5 E * 1 CH-53E A (NS)

Goal. CC standardization check.

Requirement

Review:
- Applicable 1000 series codes.

Discuss:
- CCUI duties/responsibilities.
- Standard terminology.
- External operations.
- CALs.
- CRM.
- Emergency procedures.
- Instructional techniques.

Performance Standards. Demonstrate standard FRSIE procedures, techniques and responsibilities IAW requirements outlined in this Chapter.

Prerequisite. FRSIE-5100, FRSIE-5101, FRSIE-5102, FRSIE-5103, FRSIE-5104, FRSIE-5105, FRSIE-5106

Ordnance. N/A.

External Syllabus Support. As required.

4. Fleet Replacement Squadron Instructor CH-53D

a. Purpose. To develop qualified instructor CCs for day events using a standardized flight training program.

b. General

(1) Fly IUT flights with a designated FRSID.

(2) All IUTs shall complete every event of the IUT training syllabus.

(3) Individuals shall be TERFI and NSI/NSFI designated prior to FRSID designation.

(4) The MAG-24 standardization evaluator shall certify all FRSIDs prior to designation. The MAG-24 standardization evaluator shall conduct an annual standardization check for all MAG FRSI-Ds.

c. Training Objectives. All IUT flights emphasize instructional techniques, briefing, and debriefing. The IUT will be capable of demonstrating all training objectives listed for the referenced syllabus flight. Emphasis on all flights is on training objectives, method of instruction, and student problem areas. At the completion of this stage of training, the CC will be designated a FRSID and is qualified to instruct CH-53D Core Skill Introduction CH-53E to D Series Conversion and Refresher events.

d. Crew Requirement. P/P/FRSI-D/FRSIUT.

FRSID-5200 1.5 * 1 CH-53D A D

Goal. Demonstrate FRSID responsibilities and instructional techniques during day maneuvers and navigation while flying in the TERF environment.

Requirement

Discuss:
- TERF maneuvers.
- Aircraft clearances.
- Standard terminology.
- CALs.
- CRM.
- Landing gear system failures.
- Vibrations.
- Engine failures in flight.

Performance Standards. Demonstrate proper FRSID techniques and responsibilities during maneuvers and navigation while flying in the TERF environment IAW requirements outlined in this Chapter.

Range Requirements. Approved TERF maneuver area/route.

FRSID-5201 1.5 * 1 CH-53D A D

Goal. Demonstrate FRSID responsibilities and instructional techniques used during day single point external operations.

Requirement

Discuss:
- CC duties.
- Standard terminology.
- External operations.
- CALs.
- CRM.
- Landing gear system failures.
- Emergencies.

Performance Standards. Demonstrate proper FRSID techniques and responsibilities used during external operations IAW requirements outlined in this Chapter.

Range Requirements. Approved CAL/MAL site.

External Syllabus Support. HST, certified single point load.

FRSID-5202 1.5 E * 1 CH-53D A (N)

Goal. FRSID standardization check.

Requirement

Review:
- Applicable 1000 phase events.

Discuss:
- CCUI duties/responsibilities.
- Standard terminology.
- External operations.
- CALs.
- CRM.
- Emergency procedures.
- Instructional techniques.

Performance Standards. Demonstrate standard FRSID procedures, techniques and responsibilities IAW requirements outlined in this Chapter.

Prerequisite. TERFI DESIGNATION, NSI OR NSFI DESIGNATION, FRSID-5200, FRSID-5201.

External Syllabus Support. As required.

5. AGI 5400-5421 See MAWTS-1 Course Catalog.

6. TGI 5430-5432 See MAWTS-1 Course Catalog.

7. NSFI 5600-5602 See MAWTS-1 Course Catalog.

8. TERFI 5700-5701 See MAWTS-1 Course Catalog.

9. DMI 5800-5802 See MAWTS-1 Course Catalog.

10. NSI 5900-5902 See MAWTS-1 Course Catalog.

316. REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS (RQD) PHASE (6000)

1. CH-53 NATOPS POI

a. Purpose. To evaluate aircrew knowledge of aircraft systems, performance limitations, emergency procedures, flight and ground operations IAW OPNAV 3710.7 and CH-53 NATOPS.

b. General

(1) The evaluating CC shall be a NATOPS Evaluator, NATOPS Instructor, or Assistant NATOPS Instructor. The CC evaluator shall conduct the NATOPS evaluation in accordance with OPNAV 3710.7 series and other applicable directives, instructions, and orders.

(2) The NATOPS Evaluator shall utilize the NATOPS Model Manager generated NATOPS Aviation Training Form (ATF) and the evaluation metrics required for the accomplishment and performance of the standardized criterion to determine whether the aircrew completed the sortie.

(3) 6100 is an annual flight requirement per OPNAVINST 3710.7 and the CH-53 NATOPS Manual. 6100 is the initial check ride for an AO to be designated.

(4) Aircrew shall complete and have a graded open book, closed book, and oral evaluation prior to the commencement of the flight event.

c. Crew Requirements. P/P/CC/AO. (as required).

d. Academic Training. Open, closed book and oral evaluation IAW OPNAV 3710.7 and the CH-53 NATOPS.

NTPS-6000 3.0 365 B,R,SC E Open Book NATOPS Examination

Goal. Open book written examination to evaluate the airman's NATOPS knowledge IAW 3710.

Performance Standard. IAW OPNAV 3710.

NTPS-6001 1.0 365 B,R,SC E Closed Book NATOPS Examination

Goal. Closed book written examination to evaluate the airman's NATOPS knowledge IAW 3710 and CH-53 NATOPS.

Performance Standard. IAW OPNAV 3710 and CH-53 NATOPS.

Prerequisites. NTPS-6000.

NTPS-6002 2.0 365 B,R,SC E Oral NATOPS Examination

Goal. Oral examination to evaluate the airman's NATOPS knowledge IAW 3710 and CH-53 NATOPS.

Performance Standard. IAW OPNAV 3710 and CH-53 NATOPS.

Prerequisites. NTPS-6000, NTPS-6001.

NTPS-6100 1.5 365 B,R,SC E 1+ CH-53 A/S (NS)

Goal. Completion of the annual NATOPS evaluation.

Requirement

Instructor:
NSI required if not NS qualified in the light level event is conducted.

Discuss:
Crew Brief.
Aerial Observer responsibilities.
Cabin configuration.
Weapons configuration

Demonstrate:
Aircraft systems knowledge.
Pre/post flight procedures.
In-flight procedures.
Emergency procedures.
CRM.

Performance Standards. Demonstrate proficiency and knowledge of all flight skills and systems of the CH-53 as a CC or AO as applicable.

Prerequisites. NTPS-6000, NTPS-6001, NTPS-6002.

External Syllabus Support. As required.

2. CRM Training

a. Purpose. To conduct annual CRM training.

b. General

(1) CRM Flight may be flown concurrent with any operational or training flight or simulator, including NTPS-6100.

(2) The CRM Flight Evaluator must be designated a CRM Facilitator or CRM Instructor.

c. Crew Requirements. P/P/CC/AO. (as required).

d. Academic Training. Annual CH-53 CRM Ground Training IAW CH-53 NATOPS, OPNAV 3710.7 and OPNAVINST 1542.7.

CRM-6003 1.5 365 B,R,SC E CRM Class

Goal. Conduct annual CH-53 CRM ground training IAW CH-53 NATOPS, OPNAV 3710.7 and OPNAVINST 1542.7.

Performance Standards. Per CH-53 NATOPS, OPNAV 3710.7 and OPNAVINST 1542.7.

SCRM-6101 1.5 365 B,R,SC E 1 CH-53 S/A (NS)

Goal. Practice/review CRM principles presented in the CH-53 annual CRM ground training during flight evaluation.

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.

Performance Standards. Demonstrate effective use of the 7 CRM critical skills and IAW CH-53 NATOPS, OPNAV 3710.7, OPNAVINST 1542.7.

Prerequisite. CRM-6003.

317. GRADUATE LEVEL COURSES

1. There are 7 graduate level courses that certify CCIs for tactical portions of the T&R syllabus. These courses are as follows:

a. Crew Chief Weapons and Tactics Instructor (WTI Sec MOS 6177).

b. Crew Chief Terrain Flight Instructor (TERFI).

c. Crew Chief Night Systems Instructor (NSI).

d. Crew Chief Defensive Measures Instructor (DMI).

e. Crew Chief XM-218 Aerial Gunner Instructor (XM-218 AGI).

f. Crew Chief GAU-21 Aerial Gunner Instructor (GAU-21 AGI).

g. Crew Chief Tail Gunner Instructor (TGI).

2. The above courses and applicable training syllabi are listed in the current MAWTS-1 Course Catalog. There will be no refly requirement for these instructor flights. T&R syllabus proficiency in stages is considered sufficient to maintain proficiency as an instructor. WTIs are only certified at the Weapons and Tactics Instructor course provided at MAWTS-1.

318. T&R SYLLABUS MATRIX. These tables display specific 1000 – 6000 phase event information.

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
CORE SKILL INTRODUCTION FRS ACADEMIC PHASE (0000 PHASE)																	
COMPUTER BASED TRAINING STAGE (CBT) CH-53E																	
CBT	0100	(U) CH-53E HISTORY	B,R,MR,SCE,CI,FRSIE						*	1	1.0					ACAD 0200	N/A
CBT	0102	(U) INTERIOR FAMILIARIZATION	B,R,MR,SCE,CI,FRSIE						*	1	1.0					CBT 0100	N/A
CBT	0103	(U) EXTERIOR FAMILIARIZATION	B,R,MR,SCE,CI,FRSIE						*	1	1.0					CBT 0102	N/A
CBT	0118	(U) APP OPERATION	B,R,MR,SCE,CI,FRSIE						*	1	1.5					CBT 0103	N/A
CBT	0119	(U) AFCS	B,R,MR,SCE,CI,FRSIE						*	1	1.0					CBT 0103	N/A
CBT	0120	(U) BLADE SPREAD/FOLD PROCEDURES	B,R,MR,SCE,CI,FRSIE						*	1	1.0					CBT 0103	N/A
CBT	0124	(U) EMERGENCY PROCEDURES	B,R,MR,SCE,CI,FRSIE						*	1	1.0					CBT 0103	N/A
CBT	0126	(U) TAXI / TAKEOFF / IN-FLIGHT CHECKS & PROCEDURES	B,CI,FRSIE						*	1	1.0					CBT 0103	N/A
CBT	0130	(U) INTERNAL CARGO HANDLING	B,CI,FRSIE						*	1	1.0					CBT 0103	N/A
CBT	0190	(U) BEARING MONITOR SYSTEM	B,CI,FRSIE						*	1	1.0					N/A	N/A
TOTAL CBT STAGE										10	10.5						
ACADEMIC STAGE (ACAD)																	
ACAD	0200	(U) COURSE INTRODUCTION BRIEF	B,CI,FRSIE						*	1	2.0					CHECK-IN	N/A
ACAD	0201	(U) BASIC GROUND HANDLING AND AIRCRAFT MOVEMENT	B,R,MR,SCE, CI,FRSIE						*	1	1.5					CBT 0103	N/A
ACAD	0202	(U) AIRCRAFT INTERIOR	B,CI,FRSIE						*	1	1.0					ACAD 0201	N/A
ACAD	0203	(U) ELECTRONICS COMPARTMENTS	B,CI,FRSIE						*	1	1.5					ACAD 0201	N/A
ACAD	0204	(U) LANDING GEAR	B,CI,FRSIE						*	1	1.0					ACAD 0201	N/A
ACAD	0205	(U) REFUEL, AUX TANKS, L/R FUSELAGE	B,CI,FRSIE						*	1	1.5					ACAD 0201	N/A
ACAD	0206	(U) ENGINES, NOSE GEAR BOX, EAPS	B,CI,FRSIE						*	1	1.5					ACAD 0201	N/A
ACAD	0207	(U) AFT MAIN ROTOR PYLON	B,CI,FRSIE						*	1	1.5					ACAD 0201	N/A
ACAD	0208	(U) TAIL DRIVE SHAFTS	B,CI,FRSIE						*	1	1.0					ACAD 0201	N/A
ACAD	0209	(U) TAIL SKID, IGB, TGB, TAIL SERVO	B,CI,FRSIE						*	1	1.5					ACAD 0201	N/A

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
ACAD	0210	(U) TAIL ROTOR HEAD, ROTOR BLADES	B,CI,FRSIE						*	1	1.0					ACAD 0201	N/A
ACAD	0211	(U) MGB, FLIGHT CONTROL MIXER UNIT	B,CI,FRSIE						*	1	1.5					ACAD 0201	N/A
ACAD	0212	(U) 2ND STAGE, UTILITY HYDRAULIC	B,CI,FRSIE						*	1	1.5					ACAD 0201	N/A
ACAD	0213	(U) AUXILIARY POWER PLANT	B,CI,FRSIE						*	1	1.5					ACAD 0201	N/A
ACAD	0214	(U) MAIN ROTOR HEAD AND BLADES	B,CI,FRSIE						*	1	1.0					ACAD 0201	N/A
ACAD	0215	(U) MISSION SYSTEMS	B,CI,FRSIE						*	1	1.0					ACAD 0201, CBT 0130	N/A
ACAD	0216	(U) TURNAROUND INSPECTION	B,CI,FRSIE						*	1	1.0					ACAD 0201	N/A
ACAD	0217	(U) REFUELING AND DEFUELING	B,CI,FRSIE						*	1	1.0					ACAD 0201	N/A
ACAD	0218	(U) APP OPERATION	B,CI,FRSIE						*	1	1.0					CBT 0118, ACAD 0201	N/A
ACAD	0219	(U) FLIGHT CONTROLS, AFCS	B,CI,FRSIE						*	1	1.0					CBT 0119, ACAD 0201	N/A
ACAD	0220	(U) BLADE AND PYLON FOLD AND SPREAD PROCEDURES	B,CI,FRSIE						*	1	1.0					CBT 0120, ACAD 0201	N/A
ACAD	0221	(U) PLANE CAPTAIN RESPONSIBILITIES	B,CI,FRSIE						*	1	2.5					ACAD 0201	N/A
ACAD	0222	(U) NATOPS FLIGHT PROCEDURES	B,CI,FRSIE						*	1	4.0					ACAD 0201	N/A
ACAD	0223	(U) PRE/POST FLIGHT INSPECTION	B,CI,FRSIE						*	1	4.0					ACAD 0201	N/A
ACAD	0224	(U) EGRESS PROCEDURES	B,CI,FRSIE						*	1	4.0					ACAD 0201	N/A
ACAD	0225	(U) CRM	B,R,MR,SCE,CI,FRSIE						*	1	2.5					N/A	N/A
ACAD	0226	(U) START UP/SHUT DOWN PROCEDURES	B,CI,FRSIE						*	1	1.0					CBT 0126, ACAD 0201, 0222	N/A
ACAD	0227	(U) SINGLE POINT ENGINE PLOTS AND OPERATIONAL POWER CHECK	B.CI,FRSIE						*	1	1.0					ACAD 0201	N/A
ACAD	0228	(U) TRAINING & READINESS MANUAL	B,CI,FRSIE						*	1	1.0					N/A	N/A
ACAD	0229	(U) .50 CALIBER MACHINE GUN	B,CI,FRSIE						*	1	1.0					N/A	N/A
ACAD	0230	(U) CARGO LOADING	B,CI,FRSIE						*	1	1.0					CBT 0130, ACAD 0201, 0215	N/A
ACAD	0270	(U) EXTERNAL TRANSPORTATION	B,CI,FRSIE						*	1	1.0					ACAD 0201	N/A
ACAD	0280	(U) TERRAIN FLIGHT MANUVERS	B,CI,FRSIE						*	1	1.0					ACAD 0201	N/A

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
ACAD	0290	(U) AIRCRAFT TRACK AND BALANCE	B,CI,FRSIE						*	1	2.0					ACAD 0227	N/A
ACAD	0291	(U) IMDS	B,CI,FRSIE						*	1	2.0					ACAD 0227	N/A
TOTAL ACAD STAGE										35	54.5						
LAB TRAINING (LAB) CH-53E																	
SLAB	0301	(U) BASIC GROUND HANDLING AND AIRCRAFT MOVEMENT	B,CI,FRSIE		S/A				*	1	2.5					ACAD 0201	N/A
SLAB	0302	(U) AIRCRAFT INTERIOR	B,CI,FRSIE		S/A				*	1	2.5					ACAD 0202	N/A
SLAB	0303	(U) ELECTRONICS COMPARTMENTS	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0203	N/A
SLAB	0304	(U) LANDING GEAR	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0204	N/A
SLAB	0305	(U) REFUEL, AUX TANKS, L/R FUSELAGE	B,CI,FRSIE		S/A				*	1	1.0					ACAD 0205	N/A
SLAB	0306	(U) ENGINES, NOSE GEAR BOX, EAPS	B,CI,FRSIE		S/A				*	1	2.0					ACAD 0206	N/A
SLAB	0307	(U) AFT MAIN ROTOR PYLON	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0207	N/A
SLAB	0308	(U) TAIL DRIVE SHAFTS	B,CI,FRSIE		S/A				*	1	1.0					ACAD 0208	N/A
SLAB	0309	(U) TAIL SKID, IGB, TGB, TAIL SERVO	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0209	N/A
SLAB	0310	(U) TAIL ROTOR HEAD, ROTOR BLADES	B,CI,FRSIE		S/A				*	1	1.0					ACAD 0210	N/A
SLAB	0311	(U) MGB, FLIGHT CONTROL MIXER UNIT	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0211	N/A
SLAB	0312	(U) 2ND STAGE, UTILITY HYDRAULIC	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0212	N/A
SLAB	0313	(U) AUXILIARY POWER PLANT	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0213	N/A
SLAB	0314	(U) MAIN ROTOR HEAD AND BLADES	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0214	N/A
SLAB	0315	(U) MISSION SYSTEMS	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0215	N/A
SLAB	0316	(U) TURNAROUND INSPECTION	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0216	N/A
SLAB	0317	(U) REFUELING AND DEFUELING	B,CI,FRSIE		S/A				*	1	1.0					ACAD 0217	N/A
SLAB	0318	(U) APP OPERATION	B,CI,FRSIE		S/A				*	1	1.0					ACAD 0218	N/A
SLAB	0319	(U) FLIGHT CONTROLS, AFCS	B,CI,FRSIE		S/A				*	1	1.0					ACAD 0219	N/A
SLAB	0321	(U) DAILY INSPECTION	B,CI,FRSIE		S/A				*	1	4.0					ACAD 0221	N/A
SLAB	0322	(U) TURNAROUND INSPECTION	B,CI,FRSIE		S/A				*	1	1.0					ACAD 0222	N/A

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
SLAB	0323	(U) FLIGHT EQUIPMENT	B,CI,FRSIE		S/A				*	1	1.0					ACAD 0223	N/A
SLAB	0324	(U) EGRESS PROCEDURES	B,CI,FRSIE		S/A				*	1	1.5					ACAD 0224 LAB 0323	N/A
TOTAL LAB STAGE (CH-53E)										23	35.5						
ACADEMIC STAGE (ACAD) CH-53D																	
ACAD	0400	(U) CH-53D CREW CHIEF CBT COMPLETE	SCD						*							N/A	N/A
TOTAL CBT STAGE CH-53D																	
LAB TRAINING (LAB) CH-53D																	
SLAB	0421	(U) DAILY INSPECTION	B,CI		S/A				*	1	4.0					ACAD 0400	N/A
SLAB	0422	(U) TURNAROUND	B,CI		S/A				*	1	1.0					ACAD 0400	N/A
										2	5.0						
FLEET REPLACEMENT SQUADRON INSTRUCTOR ECHO STAGE (FRSIE)																	
FRSIE	0500	(U) COMPUTER AIDED INSTRUCTION	CI,FRSIE						*	1	2.0					FSIC,BITC	N/A
FRSIE	0501	(U) LAB PERIOD OF INSTRUCTION	CI,FRSIE		S/A				*	1	2.0					0500	N/A
FRSIE	0502	(U) INSTRUCTIONAL SKILLS	CI,FRSIE		S/A				*	1	2.0					0501	N/A
FRSIE	0503	(U) PERIOD OF INSTRUCTION	CI,FRSIE		S/A				*	1	2.0					0502	N/A
TOTAL INST STAGE										5	10.0						
EVALUATION STAGE (EVAL)																	
EVAL	0600	(U) PLANE CAPTIAN DUTIES	B,CI		A					1	2.0					LAB 0321, 0322	N/A
EVAL	0601	(U) PLANE CAPTIAN DUTIES REVIEW	B,CI		A					1	2.0					EVAL 0600	N/A
TOTAL EVAL STAGE										2	4.0						
CORE SKILL INTRODUCTION FRS ACADEMIC PHASE TOTAL										35	54.5						
CORE SKILL INTRODUCTION PHASE (1000)																	
FAMILIARIZATION STAGE (FAM)																	
FAM	1100	AIRCREW DUTIES	B,SCD		A/S		D		*					1	1.5	APPLICABLE ACADS	110
FAM	1101	AIRCREW DUTIES 2	B		A	1	D		*					1	1.5	FAM-1100	111
FAM	1102	EMERGENCY PROCEDURES	B		A	1	D		*					1	1.5	FAM-1101	N/A
FAM	1103	AIRCREW DUTIES 3	B,R,SCE		A	1	D		*					1	1.5	FAM-1102	112
FAM	1104	AIRCREW DUTIES/CRM	B,SCD		A/S		D		*					1	1.5	FAM-1103	113
NFAM	1200	NIGHT SYSTEMS FAM	B		A/S		NS		*					1	1.5	NITE LAB	121
NFAM	1201	NIGHT SYSTEMS FAM	B,R		A	1	NS		*					1	1.5	NFAM-1200	122

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
TOTAL FAM STAGE														7	10.5		
INTERNAL LOADS (INT)																	
INT	1300	INTERNAL PLANNING	B		A/S		(N)		*					1	1.5	FAM-1104	135
INT	1301	PASSENGERS/CARGO	B		A/S		(N)		*					1	1.5	FAM-1300	136
TOTAL INT STAGE														2	3.0		
FORMATION STAGE (FORM)																	
FORM	1500	FORMATION FLIGHT	B		A	2	D		*					1	2.0	FAM-1103	152
FORM	1501	NIGHT FORMATION FLIGHT	B		A	2	NS		*					1	2.0	NFAM-1201, FORM-1500	153
TOTAL FORM STAGE														2	4.0		
CONFINED AREA LANDING STAGE (CAL)																	
CAL	1600	CONFINED AREA LANDING	B, SCD		A/S		D		*			1	1.5			FAM-1103	161
CAL	1601	SECTION CONFINED AREA LANDING	B, R, SCE, SCD		A	2	D		*					1	1.5	FAM-1104, CAL-1600	162
CAL	1602	NIGHT SYSTEMS (CAL)	B		A	1	NS		*					1	1.5	NFAM-1202, CAL-1601	163
CAL	1603	SECTION NIGHT SYSTEMS (CAL)	B, R, SCE,SCD		A	2	NS		*					1	1.5	CAL-1602	164
TOTAL CAL STAGE												1	1.5	3	4.5		
EXTERNAL STAGE (EXT)																	
SEXT	1700	SINGLE-POINT EXTERNAL	B		S		D		*			1	1.5			CAL-1600	N/A
SEXT	1701	DUAL-POINT EXTERNAL	B		S		D		*			1	1.5			EXT-1700	N/A
EXT	1703	SINGLE-POINT EXTERNAL	B, R, SCD, SCE		A	1	D		*					1	1.5	CAL-1601, EXT-1702	170
EXT	1704	DUAL-POINT EXTERNAL	B, R, SCE		A	1	D		*					1	1.5	EXT-1703	172
EXT	1705	(NS) SINGLE-POINT EXTERNAL	B, R, SCD, SCE		A	1	NS		*					1	1.5	CAL-1603, EXT-1704	171
EXT	1706	(NS) DUAL-POINT EXTERNAL	B, R, SCE		A	1	NS		*					1	1.5	EXT-1705	173
TOTAL EXT STAGE												2	3.0	4	6.0		
TERRAIN FLIGHT STAGE (TERF)																	
TERF	1801	TERRAIN FLIGHT	B, R, SCD		A	1	D		*					1	1.5	CAL-1600	180
TOTAL TERF STAGE														1	1.5		
REVIEW STAGE (REV)																	
REV	1900	STANDARDIZATION CHECK	B, R, SCD, SCE		A		(NS)		*					1	2.0	ALL 1000 LEVEL FLIGHTS	119
TOTAL REVIEW STAGE														1	2.0		
CORE SKILL INTRODUCTION CHECKRIDE (CSIX)																	
CSIX	1901	STANDARDIZATION CHECK	B, R, SCD, SCE	E	A		(NS		*					1	1.5	REV-1900	191

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
							)										
TOTAL CSIX STAGE														1	1.5		
CORE SKILL INTRODUCTION PHASE TOTAL												3	4.5	21	33.0		
CORE SKILL PHASE (2000)																	
ACADEMIC STAGE (ACAD)																	
ACAD	2004	(S) AAR / ALE 47	B						*		1.0					N/A	N/A
ACAD	2012	(S) APR-39	B						*		1.0					N/A	N/A
ACAD	2018	(S) ALQ-157 (CH-53D)	B, SCD						*		1.0					N/A	N/A
ACAD	2019	(S) AAQ-24	B						*		1.0					N/A	N/A
ACAD	2050	(U) EA TACTICAL AIRCREW CONSIDERATIONS AND RESPONSIBILITIES	B						*		1.0					N/A	N/A
ACAD	2051	(U) EA TERRAIN FLIGHT FOR ENLISTED AIRCREW	B						*		1.0					N/A	N/A
ACAD	2052	(U) EA NIGHT VISION TRAINING	B						*		1.0					N/A	N/A
ACAD	2053	(U) EA FUNDAMENTALS OF AERIAL GUNNERY	B						*		1.0					N/A	N/A
ACAD	2054	(U) EA XM-218/GAU-16A MACHINE GUN	B						*		1.0					N/A	N/A
ACAD	2055	(U) EA GAU-21 .50 CAL MACHINE GUN	B						*		1.0					N/A	N/A
ACAD	2056	(U) EA LASER AIMING DEVICES	B						*		1.0					N/A	N/A
ACAD	2057	(U) EA LASER BORESIGHTING	B						*		1.0					N/A	N/A
ACAD	2058	(U) EA BASIC PRINCIPLES OF ESCORT OPERATIONS	B						*		1.0					N/A	N/A
TOTAL ACAD STAGE										13	13						
INTERNAL STAGE (INT)																	
SINT	2100	CARGO SIM	B		S		(N)		*			1	1.5			2050, 2052(N)	N/A
SINT	2101	PAX SIM	B		S		(N)		*			1	1.5			2050, 2052(N)	N/A
INT	2105	CARGO	B, R		A	1	(N)		365					1	1.5	2050, 2052(N), 2100	200
INT	2106	PAX	B, R		A	1	(N)		365					1	1.5	2050, 2052(N), 2101	201
TOTAL INT STAGE												2	3.0	2	3.0		
FORMATION STAGE (FORM)																	
FORM	2110	DAY FORM	B,R		A	2	D		36					1	1.5	2050	210

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
									5								
TOTAL FORM STAGE														1	1.5		
CONFINED AREA LANDING STAGE (CAL)																	
CAL	2210	CALS	B		A	1	D		365					1	1.5	2050	220
CAL	2211	SECTION CALS	B ,R, SC		A	2	D		365					1	1.5	2110, 2210	221
TOTAL CAL STAGE														2	3.0		
TERRAIN FLIGHT STAGE (TERF)																	
TERF	2310	TERF	B		A	1	D		365					1	1.5	2050, 2051	230
TERF	2311	SECTION TERF	B, R, SC		A	2	D		365					1	1.5	2110, 2310	231
TOTAL TERF STAGE														2	3.0		
EXTERNAL STAGE (EXT)																	
EXT	2410	SINGLE POINT EXTERNALS	B, RD, SC		A	1	D		365					1	1.5	2210	240
EXT	2411	DUAL POINT EXTERNALS	B, RE, SCE		A	1	D		365					1	1.5	2210	241
EXT	2420	HLL SINGLE POINT EXTERNALS	B, RD, SC		A	1	NS		180					1	1.5	2220, 2410	243
EXT	2421	HLL DUAL POINT EXTERNALS	B, RE, SCE		A	1	NS		180					1	1.5	2220, 2411	244
EXT	2430	LLL EXTERNALS	B, R, SC		A	1	NS		180					1	1.5	2230,2420,2421(CH-53E)	342
TOTAL EXT STAGE														5	7.5		
GROUND THREAT REACTION STAGE (GTR)																	
GTR	2540	NON RADAR GTR	B, R		A	2	(NS)		365					1	1.5	2004,2012,2018,2019,2311, 2321(HLL) or 2331(LLL)	350
TOTAL GTR STAGE														1	1.5		
HELICOPTER AIR TO AIR REFUELING STAGE (HAAR)																	
SHAAR	2640	HAAR	B, SCE		A/S		(NS)		*			1	1.5			2110, 2120(NS)	N/A
TOTAL HAAR STAGE												1	1.5	1.5	1.5		

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
FIELD CARRIER LANDING PRACTICE STAGE (FCLP)																	
FLCP	2710	DAY FCLP	B, R		A	1	D		365					1	1.5	2210	271
FCLP	2742	NIGHT FCLP	B, R		A	1	NS		365					1	1.5	2220(HLL), 2230(LLL), 2710	273
TOTAL FCLP STAGE														2	3.0		
XM-218 AERIAL GUNNERY STAGE (XM-218 AG)																	
XMAG	2810	DAY XM-218 AG	B		A	1	D		365					1	1.5	2053,2054,2310	280
XMAG	2811	DAY SECTION XM-218 AG	B, R		A	2	D		365					1	1.5	2311,2810	281
XMAG	2840	NIGHT XM-218 AG	B		A	1	NS		365					1	1.5	2056,2057,2320(HLL), 2330(LLL), 2810	380
XMAG	2841	NIGHT SECTION XM-218 AG	B, R		A	2	NS		365					1	1.5	2321(HLL), 2331(LLL), 2811, 2840	381
TOTAL XM-218 AG STAGE														4	6.0		
GAU-21 AERIAL GUNNERY STAGE (GAU-21 AG)																	
GAUAG	2812	DAY MWPC AG	B		A	1	D		365					1	1.5	2053,2055,2310	N/A
GAUAG	2813	DAY SECTION MWPC AG	B, R		A	2	D		365					1	1.5	2311,2812	N/A
GAUAG	2842	NIGHT MWPC AG	B		A	1	NS		365					1	1.5	2056,2057,2320(HLL) , 2330(LLL),2812	N/A
GAUAG	2843	NIGHT SECTION MWPC AG	B, R		A	2	NS		365					1	1.5	2321(HLL), 2331(LLL), 2813,2842	N/A
TOTAL GAU-21 AG STAGE														4	6.0		
XM-218 – GAU 21 AERIAL GUNNERY CONVERSION STAGE (AGC)																	
AGC	2814	DAY XM-218 / MWPC CONVERSION	B		A	1+	D		*					1	1.5		N/A
AGC	2844	NIGHT XM-218 / MWPC CONVERSION	B		A	1+	NS		*					1	1.5	2814	N/A
TOTAL AGC STAGE														2	3.0		
TACTICS STAGE (TAC)																	
TAC	2910	DAY LOW THREAT TACTICS	B		A	2	D		365					1	2.0	2058, 2211, 2311	290
TAC	2911	DAY MEDIUM THREAT TACTICS	B, R		A	2+	D		365					1	2.0	2910	390
TOTAL TAC STAGE														2	4.0		

CH-53 CREWCHIEF T&R MATRIX																
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
NIGHT SYSTEMS HIGH LIGHT LEVEL STAGE (NS HLL)																	
HLL	2120	HLL FORM	B, R		A	2	NS		180					1	1.5	2052, 2110	211
HLL	2220	HLL CALS	B		A	1	NS		180					1	1.5	2052, 2210	222
HLL	2221	HLL SECTION CALS	B, R, SC		A	2	NS		180					1	1.5	2120, 2211, 2220	223
HLL	2320	HLL TERF	B		A	1	NS		180					1	1.5	2052, 2310	232
HLL	2321	HLL SECTION TERF	B, R, SC		A	2	NS		180					1	1.5	2120, 2311, 2320	233
HLL	2920	HLL LOW THREAT TACTICS	B, R		A	2	NS		365					1	2.0	2221, 2321, 2910	291
TOTAL NS HLL STAGE														6	9.5		
NIGHT SYSTEMS LOW LIGHT LEVEL STAGE (NS LLL)																	
LLL	2230	LLL CALS	B		A	1	NS		180					1	1.5	NSQ-HLL, 2420(53D), 2420 and 2421(53E)	320
LLL	2231	LLL SECTION CALS	B, R, SC		A	2	NS		180					1	1.5	2230	321
LLL	2330	LLL TERF	B		A	1	NS		180					1	1.5	NSQ-HLL, 2420(53D), 2420 and 2421(53E)	330
LLL	2331	LLL SECTION TERF	B, R, SC		A	2	NS		180					1	1.5	2330	331
LLL	2930	LLL MED THREAT TACTICS	B, R		A	2+	NS		365					1	2.0	2231, 2331, 2911, 2920	391
TOTAL NS LLL STAGE														5	8.0		
CORE SKILL PHASE TOTAL										10	10.0	3	4.5	38	59.0		
MISSION SKILLS PHASE (3000)																	
ACADEMIC STAGE (ACAD)																	
ACAD	3002	(U) NEO EXECUTION	B						*	1	.8					N/A	N/A
ACAD	3004	(S) PERSONNEL RECOVERY	B						*	1	1					N/A	N/A
ACAD	3005	(S) CH53 SPECIFIC TRAP TTPS	B						*	1	.8					N/A	N/A
ACAD	3006	(U) CASEVAC	B						*	1	.5					N/A	N/A
TOTAL ACAD STAGE										4	3.1						
EXPEDITIONARY SHORE BASED OPERATIONS STAGE (EXP)																	
EXP	3140	EXPEDITIONARY SHORE BASED TAC	B, R		A/S	1+	(NS)		365					1	2.0	NSQ LLL, AGQ	N/A
TOTAL EXP STAGE														1	2.0		

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
ASSAULT TRANSPORT STAGE (AT)																	
AT	3240	ASSUALT TRANSPORT TACTICS	B, R		A/S	1+	(NS)		365					1	2.0	NSQ LLL, AGQ	N/A
TOTAL AT STAGE														1	2.0		
AERIAL DELIVERY STAGE (AD)																	
AD	3340	AERIAL DELIVERY TACTICS	B, R		A/S	1+	(NS)		365					1	2.0	NSQ LLL, AGQ	N/A
TOTAL AD STAGE														1	2.0		
TACTICAL RECOVERY OF AIRCRAFT AND PERSONNEL STAGE (TRAP)																	
TRAP	3440	TRAP TACTICS	B, R		A/S	1+	(NS)		365					1	2.0	NSQ LLL, AGQ,3004, 3005	N/A
TOTAL TRAP STAGE														1	2.0		
AIR EVACUATION STAGE (AE)																	
AE	3540	AERIAL EVACUTION TACTICS	B, R		A/S	1+	(NS)		365					1	2.0	NSQ LLL, AGQ, 3002, 3006	N/A
TOTAL AE STAGE														1	2.0		
TOTAL MISSION SKILLS PHASE														5	10.0		
CORE PLUS SKILLS PHASE (4000)																	
ACADEMIC STAGE (ACAD)																	
ACAD	4011	(U) EA AVIATION DELIVEREDGROUND REFUELING TBFDS (CH53E) / MK-105 (CH53D)	B,SCD,SCE						*	1	1.0					N/A	N/A
ACAD	4050	(U) EA BASIC PRINCIPLES OF ELECTRONIC WARFARE	B						*	1	1.0					N/A	N/A
ACAD	4051	(U) EA DEFENSIVE MEASURES	B						*	1	1.0					N/A	N/A
ACAD	4052	(U) EA DEFENSIVE MEASURES PART 2	B						*	1	1.0					N/A	N/A
ACAD	4053	(U) EA TRAINING THE TAIL GUNNER	B						*	1	1.0					N/A	N/A
TOTAL ACAD STAGE										5	5.0						
HELICOPTER INSERTION & EXTRACTION TECHNIQUES STAGE (HIE)																	
SHIE	4100	INTERNAL SIM	B		S		D		*			1	1.5			2106, 2210	N/A
HIE	4110	HELOCAST	B, R		A	1	D		*					1	1.5	TERFQ , 2106, 4100	400
HIE	4140	RAPPEL	B, R, SC		A	1	(NS)		*					1	1.5	2210, 2920~NS, 2930~LLL,4100	401
HIE	4141	PARAOPS	B, R		A	1	(NS		*					1	1.5	2920(HLL), 2930(LLL),	402

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
							)									4100	
TOTAL HIE STAGE												1	1.5	3	4.5		
AVIATION DELIVERED GROUND REFUELING STAGE (ADGR)																	
SADGR	4200	INT TBFDS / MK-105 TACTICS SIM	B, SC		S		(NS)		*	1		1	1.5			2105,4011	N/A
ADGR	4240	INT TBFDS / MK-105 TACTICS	B, R, SC		A	1	(NS)		365	1		1	1.5			2105, 2210, 2920(HLL), 2930(LLL), 4011, 4200	410
TOTAL ADGR STAGE												2	3.0				
TERRAIN FLIGHT EXTERNALS STAGE (TERF EXT)																	
TERF EXT	4412	DAY TERF EXTERNALS	B, R		S/A	1	D		365			1	1.5			2310, 2410, 2411	242
TERF EXT	4440	NS TERF EXTERNALS	B, R		S/A	1	NS		180					1	1.5	2320~NS,2420~NS, 2330~LLL,2430~LLL 2421(DP)	343
TOTAL TERF EXT STAGER												1	1.5	1	1.5		
DEFENSIVE MEASURES STAGE (DM)																	
DM	4510	RW DM	B, R		A	2	D		365					1	1.5	2311, 4051, 4052	451
DM	4511	FW DM	B, R		A	2	D		365					1	1.5	2311, 4051, 4052	452
TOTAL DM STAGE														2	3.0		
GROUND THREAT REACTION STAGE (GTR)																	
GTR	4540	RADAR GTR	B, R		A	2	(NS)		365					1	1.5	2311, 2321(HLL), 2331(LLL) ,4050	450
TOTAL GTR STAGE														1	1.5		
CHEMICAL, BIOLOGICAL, RADIATION, AND NUCLEAR STAGE (CBRN)																	
SCBRN	4640	CBRN	B		S/A		(NS)		*			1	1.5			2210, 2220(HLL), 2230(LLL)	460
TOTAL CBRN STAGE												1	1.5				
CARRIER QUALIFICATION STAGE (CQ)																	
CQ	4711	DAY CQ	B, R		A	1	D		365					1	1.5	2710	470
CQ	4743	NIGHT CQ	B, R		A	1	NS		365					1	1.5	NSQ-HLL, 2742, 4711	472
TOTAL CQ STAGE														2	3.0		

CH-53 CREWCHIEF T&R MATRIX																
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
TAIL GUNNERY STAGE (TG)																	
TG	4810	DAY TG	B, R		A	1	D		365					1	1.5	AGQ, 2055, 4053	481
TG	4811	DAY SECTION TG	B, R		A	2	D		365					1	1.5	4810	482
TG	4840	NIGHT SECTION TG	B, R		A	2	NS		365					1	1.5	4811	483
TOTAL TG STAGE														3	4.5		
MOVING TARGET GUNNERY STAGE (MTG)																	
MTG	4841	MOVING TARGET AG	B, R		A	1+	(NS)		365					1	1.5	2810(XMAG), 2812(GAUAG), or 2840(XMAG), 2842(GAUAG) if NS are utilized	480
TOTAL MTG STAGE														1	1.5		
TACTICS STAGE																	
TAC	4940	DIVISION TACTICS	B, R		A	3+	(NS)		365					1	2.0	2911, 2920(HLL), 2930(LLL)	490
TAC	4941	URBAN TACTICS	B, R		A	2	NS		365					1	2.0	2920(HLL), 2930(LLL)	492
TOTAL TACTICS STAGE														2	4.0		
4000 PHASE – MISSION PLUS SKILLS																	
RAID STAGE																	
RAID	4980	RAID TACTICS	B, R		A/S	1+	(NS)		365					1	2.0	NSQ LLL, AGQ	N/A
TOTAL RAID STAGE														1	2.0		
AVIATION DELIVERED GROUND REFUELING STAGE (ADGR)																	
ADGR	4981	TBFDS/MK-105 TACTICS	B, R		A/S	1+	(N)		365					1	2.0	NSQ LLL, AGQ, 4240	N/A
TOTAL ADGR STAGE														1	2.0		
SEA BASED OPERATIONS STAGE (SEA)																	
SEA	4982	SEA BASED TACTICS	B, R	E	A/S	1+	(N)		365					1	2.0	NSQ LLL, AGQ, Appropriate FCLP/ CQ event	N/A
TOTAL SEA STAGE														1	2.0		
TOTAL MISSION PLUS SKILLS PHASE												5	7.5	18	29.5		

CH-53 CREWCHIEF T&R MATRIX																
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
INSTRUCTOR TRAINING PHASE (5000)																	
FLEET REPLACEMENT SQUADRON INSTRUCTOR TRAINING																	
FLEET REPLACEMENT SQUADRON INSTRUCTOR ECHO (FRSIE)																	
FRSIE	5100	DAY FORM			A	2	D		*					1	1.5	N/A	500
FRSIE	5101	NIGHT FORM			A	2	NS		*					1	1.5	N/A	501
FRSIE	5102	DAY CAL			A	1	D		*					1	1.5	N/A	502
FRSIE	5103	NIGHT CAL			A	1	NS		*					1	1.5	N/A	503
FRSIE	5104	DAY TERF			A	1	D		*					1	1.5	N/A	504
FRSIE	5105	DAY EXT			A	1	D		*					1	1.5	N/A	505
FRSIE	5106	NIGHT EXT			A	1	NS		*					1	1.5	N/A	506
FRSIE	5107	STANDARDIZATION CHECK		E	A	1	(NS)		*					1	1.5	5100, 5101, 5102, 5103, 5104, 5105, 5106	507
TOTAL FRS INSTRUCTOR STAGE														8	12		
FLEET REPLACEMENT SQUADRON INSTRUCTOR DELTA (FRSID)																	
FRSID	5200	DAY TERF			A	1	D		*					1	1.5		508
FRSID	5201	DAY EXT			A	1	D		*					1	1.5	N/A	509
FRSID	5202	STANDARDIZATION CHECK		E	A	1	(N)		*					1	1.5	5200,5201, 5701, 5602 OR 5902	510
TOTAL MAG-24 INSTRUCTOR STAGE														3	4.5		
AERIAL GUNNERY INSTRUCTOR (AGI)																	
AGI	5400	DAY AG XM-218			A	1			*					1	1.5	SEE	540
AGI	5401	NIGHT AG XM-218			A	1	NS		*					1	1.5	MAWTS-1	541
AGI	5402	MOVING TARGET AG XM-218			A	1	(NS)		*					1	1.5	COURSE CATALOG	542
AGI	5403	NIGHT SECTION AG XM-218		E	A	2	NS		*					1	2.0	SEE	543
AGI	5410	DAY AG MWPC			A	1			*					1	1.5	MAWTS-1	N/A
AGI	5411	NIGHT AG MWPC			A	1	NS		*					1	1.5	COURSE CATALOG	N/A
AGI	5412	MOVING TARGET AG MWPC			A	1	(NS)		*					1	1.5	SEE	N/A
AGI	5413	NIGHT SECTION AG MWPC		E	A	2	NS		*					1	2.0	MAWTS-1	N/A
AGI	5420	DAY AG CONVERSION			A	1+			*					1	1.5	COURSE CATALOG	N/A
AGI	5421	NIGHT AG CONVERSION		E	A	1+	NS		*					1	2.0		N/A
TOTAL AGI STAGE														4	6.5		
TAIL GUNNERY INSTRUCTOR STAGE (TGI)																	
TGI	5430	DAY TG			A	1			*					1	1.5	SEE	544
TGI	5431	DAY SECTION TG			A	2			*					1	1.5	MAWTS-1	545

CH-53 CREWCHIEF T&R MATRIX																	
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
TGI	5432	NIGHT SECTION TG		E	A	2			*					1	2.0	COURSE CATALOG	546
TOTAL TGI STAGE														3	5.0		
NIGHT SYSTEMS FAMILIARIZATION INSTRUCTOR STAGE (NSFI)																	
NSFI	5600	HLL FAM			A	1	NS		*					1	1.5	SEE	560
NSFI	5601	HLL FORM/SECTION CALS			A	2	NS		*					1	1.5	MAWTS-1	561
NSFI	5602	HLL EXT		E	A	1	NS		*					1	2.0	COURSE CATALOG	562
TOTAL NSFI STAGE														3	5.0		
TERRAIN FLIGHT INSTRUCTOR STAGE (TERFI)																	
TERFI	5700	DAY TERF/NAV/EXT		E	A	1			*					1	2.0	SEE MAWTS-1	570
TERFI	5701	DAY SECTION TERF/NAV		E	A	2	NS		*					1	2.0	COURSE CATALOG	571
TOTAL TERFI STAGE														2	4.0		
DEFENSIVE MEASURES STAGE (DMI)																	
DMI	5800	2V GRND THREAT			A	2	(NS)		*					1	1.5	SEE	580
DMI	5801	2 V FW/RW			A	2			*					1	1.5	MAWTS-1	581
DMI	5802	2 V FW/RW		E	A	2			*					1	2.0	COURSE CATALOG	582
TOTAL DMI STAGE														3	5.0		
NIGHT SYSTEMS INSTRUCTOR (NSI)																	
NSI	5900	NIGHT FAM/CAL/EXT			A	1	NS		*					1	1.5	SEE	590
NSI	5901	NIGHT SECTION CALS/TERF			A	2	NS		*					1	1.5	MAWTS-1	591
NSI	5902	NIGHT SECTION CALS/TERF/EXT/TAC		E	A	2	NS		*					1	3.0	COURSE CATALOG	592
TOTAL NSI STAGE														3	6.0		
TOTAL INSTRUCTOR STAGE														26	43		
REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS (6000)																	
NATOPS SYLLABUS STAGE (NTPS)																	
NTPS	6000	OPEN BOOK EXAM	B,R,SC	E					365	1	3.0					N/A	N/A
NTPS	6001	CLOSED BOOK EXAM	B,R,SC	E					365	1	1.0					6000	N/A
NTPS	6002	ORAL EXAM	B,R,SC	E					365	1	2.0					6000, 6001	N/A
NTPS	6100	NATOPS EVALUATION FLIGHT	B,R,SC	E	A/S		(NS)		365					1	1.5	6000, 6001, 6002	600
TOTAL NTPS STAGE										3	6.0			1	1.5		

CH-53 CREWCHIEF T&R MATRIX																
STAGE	TRNG CODE	DESCRIPTION	POI	E	DEVIC	# OF A/C	CON	TEN+	REFLY	# OF ACAD	ACAD	# OF SIM	SIM	# OF FLTS	FLT	PREREQUISITE	EVENT CONV
CREW RESOURCE MANAGEMENT (CRM)																	
CRM	6003	CRM GROUND CLASS	B,R,SC	E					365	1	1.5					N/A	N/A
CRM	6101	CRM FLIGHT	B,R,SC	E	A/S	1	(NS)		365					1	1.5	6003	N/A
TOTAL CRM STAGE										1	1.5			1	1.5		

STAGE	TRNG CODE	DESCRIPTION	CHAINING	EVENT CONV
INT	2100	SIM CARGO		N/A
INT	2101	SIM PAX		N/A
INT	2105	CARGO		200
INT	2106	PAX		201
FORM	2110	DAY FORM		210
CAL	2210	CALS		220
CAL	2211	SECTION CALS	2110, 2210	221
TERF	2310	TERF		230
TERF	2311	SECTION TERF	2110, 2310	231
EXT	2410	SINGLE POINT EXTERNALS	2210	240
EXT	2411	DUAL POINT EXTERNALS	2210, 2410	241
EXT	2420	HLL SINGLE POINT EXTERNALS	2210, 2220, 2410	243
EXT	2421	HLL DUAL POINT EXTERNALS	2210, 2220, 2410, 2411, 2420	244
EXT	2430	LLL EXTERNALS	2210, 2220, 2230, 2410, 2411, 2420, 2421	342
GTR	2540	NON RADAR GTR	2110, 2310, 2311	350
HAAR	2600	HAAR SIM / FLIGHT		N/A
FLCP	2710	DAY FCLP		270
FCLP	2742	NIGHT FCLP	2710	272
XMAG	2810	DAY XM-218 AG		280
XMAG	2811	DAY SECTION XM-218 AG	2810	281
XMAG	2840	NIGHT XM-218 AG	2810	380
XMAG	2841	NIGHT SECTION XM-218 AG	2810, 2811, 2840	381
GAUAG	2812	DAY MWPC AG		N/A

STAGE	TRNG CODE	DESCRIPTION	CHAINING	EVENT CONV
GAUAG	2813	DAY SECTION MWPC AG	2812	N/A
GAUAG	2842	NIGHT MWPC AG	2812	N/A
GAUAG	2843	NIGHT SECTION MWPC AG	2812, 2813, 2842	N/A
AGC	2814	DAY XM-218 / MWPC CONVERSION	Mirror GAUAG-2813	N/A
AGC	2844	NIGHT XM-218 / MWPC CONVERSION	Mirror GAUAG-2843	N/A
TAC	2910	DAY LOW THREAT TACTICS	2106, 2110, 2210, 2211	290
TAC	2911	DAY MEDIUM THREAT TACTICS	2106, 2110, 2210, 2211, 2910	390
HLL	2120	HLL FORM	2110	211
HLL	2220	HLL CALS	2210	222
HLL	2221	HLL SECTION CALS	2110, 2120, 2210, 2211, 2220	223
HLL	2320	HLL TERF	2310	232
HLL	2321	HLL SECTION TERF	2110, 2120, 2310, 2311, 2320	233
HLL	2920	HLL LOW THREAT TACTICS	2106, 2110, 2120, 2210, 2211, 2220, 2221, 2910	291
LLL	2230	LLL CALS	2210, 2220	320
LLL	2231	LLL SECTION CALS	2110, 2120, 2210, 2211, 2220, 2221, 2230	321
LLL	2330	LLL TERF	2310, 2320	330
LLL	2331	LLL SECTION TERF	2110, 2120, 2310, 2311, 2320, 2321, 2330	331
LLL	2930	LLL MED THREAT TACTICS	2106, 2110, 2120, 2210, 2211, 2220, 2221, 2230, 2231, 2910, 2911, 2920	391
EXP	3140	EXPEDITIONARY SHORE BASED TAC		N/A
AT	3240	ASSUALT TRANSPORT TACTICS		N/A
AD	3340	AERIAL DELIVERY TACTICS		N/A
TRAP	3440	TRAP TACTICS		N/A
AE	3540	AERIAL EVACUTION TACTICS		N/A
HIE	4100	INTERNAL SIM		N/A
HIE	4110	HELOCAST	2106	400
HIE	4140	RAPPEL	2106	401
HIE	4141	PARAOPS	2106	402
ADGR	4200	INT TBFDS / MK-105 TACTICS SIM		N/A

STAGE	TRNG CODE	DESCRIPTION	CHAINING	EVENT CONV
ADGR	4240	INT TBFDS / MK-105 TACTICS	2105	410
TERF EXT	4412	DAY TERF EXT		242
TERF EXT	4440	NS TERF EXT		343
DM	4510	RW DM	2110, 2310, 2311	451
DM	4511	FW DM	2110, 2310, 2311	452
GTR	4540	RADAR GTR	2110, 2310, 2311	450
CBRN	4640	CBRN SIM / FLIGHT		460
CQ	4711	DAY CQ	2710	470
CQ	4743	NIGHT CQ	2710, 2742, 4711	472
TG	4810	DAY TG		481
TG	4811	DAY SECTION TG	4810	482
TG	4840	NIGHT SECTION TG	4810, 4811	483
MTG	4841	MOVING TARGET AG	2810 or 2812 RESPECTIVELY	480
TAC	4940	DIVISION TACTICS	2110, 2210, 2211, 2910, 2911	490
TAC	4941	URBAN TACTICS	2110, 2120, 2210, 2211, 2220, 2221, 2910, 2911, 2920	492
RAID	4980	RAID TACTICS		N/A
ADGR	4981	TBFDS/MK-105 TACTICS		N/A
SEA	4982	SEA BASED TACTICS		N/A

ENLISTED AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET ACADEMIC TRACKER				
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING				
NAME (Last, first, middle initial)		Last 4 SSN		
T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	FRS ACADEMIC PHASE (0000)	DD/MM/YY	NAME OR SELF PACED	NAME
CBT-0100	(U) CH-53E HISTORY			
CBT-0102	(U) INTERIOR FAMILIARIZATION			
CBT-0103	(U) EXTERIOR FAMILIARIZATION			
CBT-0118	(U) APP OPERATION			
CBT-0119	(U) AFCS			
CBT-0120	(U) BLADE SPREAD/FOLD PROCEDURES			
CBT-0124	(U) EMERGENCY PROCEDURES			
CBT-0126	(U) TAXI / TAKEOFF / IN-FLIGHT CHECKS & PROCEDURES			
CBT-0130	(U) INTERNAL CARGO HANDLING			
CBT-0190	(U) BEARING MONITOR SYSTEM			
ACAD-0200	(U) COURSE INTRODUCTION BRIEF			
ACAD-0201	(U) BASIC GROUND HANDLING AND AIRCRAFT MOVEMENT			
ACAD-0202	(U) AIRCRAFT INTERIOR			
ACAD-0203	(U) ELECTRONICS COMPARTMENTS			
ACAD-0204	(U) LANDING GEAR			
ACAD-0205	(U) REFUEL, AUX TANKS, L/R FUSELAGE			
ACAD-0206	(U) ENGINES, NOSE GEAR BOX, EAPS			
ACAD-0208	(U) TAIL DRIVE SHAFTS			
ACAD-0209	(U) TAIL SKID, IGB, TGB, TAIL SERVO			
ACAD-0210	(U) TAIL ROTOR HEAD, ROTOR BLADES			
ACAD-0211	(U) MGB, FLIGHT CONTROL MIXER UNIT			
ACAD-0212	(U) 2ND STAGE, UTILITY HYDRAULIC			
ACAD-0213	(U) AUXILIARY POWER PLANT			
ACAD-0214	(U) MAIN ROTOR HEAD AND BLADES			

ENLISTED AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET ACADEMIC TRACKER	
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING	
NAME (Last, first, middle initial)	Last 4 SSN

T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	FRS ACADEMIC PHASE (0000)	DD/MM/YY	NAME OR SELF PACED	NAME
ACAD-0215	(U) MISSION SYSTEMS			
ACAD-0216	(U) TURNAROUND INSPECTION			
ACAD-0217	(U) REFUELING AND DEFUELING			
ACAD-0218	(U) APP OPERATION			
ACAD-0219	(U) FLIGHT CONTROLS, AFCS			
ACAD-0220	(U) BLADE AND PYLON FOLD AND SPREAD PROCEDURES			
ACAD-0221	(U) PLANE CAPTAIN RESPONSIBILITIES			
ACAD-0222	(U) NATOPS FLIGHT PROCEDURES			
ACAD-0223	(U) PRE/POST FLIGHT INSPECTION			
ACAD-0224	(U) EGRESS PROCEDURES			
ACAD-0225	(U) CRM			
ACAD-0226	(U) START UP/SHUT DOWN PROCEDURES			
ACAD-0227	(U) SINGLE POINT ENGINE PLOT/OPERATIONAL POWER CHECK			
ACAD-0228	(U) READINESS MANUAL			
ACAD-0229	(U) .50 CALIBER MACHINE GUN			
ACAD-0230	(U) CARGO LOADING			
ACAD-0270	(U) EXTERNAL TRANSPORTATION			
ACAD-0280	(U) TERRAIN FLIGHT MANUVERS			
ACAD-0290	(U) AIRCRAFT TRACK AND BALANCE			
ACAD-0291	(U) IMDS			

ENLISTED AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET ACADEMIC TRACKER	
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING	
NAME (Last, first, middle initial)	Last 4 SSN

T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	FRS ACADEMIC PHASE (0000)	DD/MM/YY	NAME OR SELF PACED	NAME
LAB-0301	(U) BASIC GROUND HANDLING AND AIRCRAFT MOVEMENT			
LAB-0302	(U) AIRCRAFT INTERIOR			
LAB-0303	(U) ELECTRONICS COMPARTMENTS			
LAB-0304	(U) LANDING GEAR			
LAB-0305	(U) REFUEL, AUX TANKS, L/R FUSELAGE			
LAB-0306	(U) ENGINES, NOSE GEAR BOX, EAPS			
LAB-0307	(U) AFT MAIN ROTOR PYLON			
LAB-0308	(U) TAIL DRIVE SHAFTS			
LAB-0309	(U) TAIL SKID, IGB, TGB, TAIL SERVO			
LAB-0310	(U) TAIL ROTOR HEAD, ROTOR BLADES			
LAB-0311	(U) MGB, FLIGHT CONTROL MIXER UNIT			
LAB-0312	(U) 2ND STAGE, UTILITY HYDRAULIC			
LAB-0313	(U) AUXILIARY POWER PLANT			
LAB-0314	(U) MAIN ROTOR HEAD AND BLADES			
LAB-0315	(U) MISSION SYSTEMS			
LAB-0316	(U) TURNAROUND INSPECTION			
LAB-0317	(U) REFUELING AND DEFUELING			
LAB-0318	(U) APP OPERATION			
LAB-0319	(U) FLIGHT CONTROLS, AFCS			
LAB-0321	(U) DAILY INSPECTION			
LAB-0322	(U) TURNAROUND INSPECTION			
LAB-0323	(U) FLIGHT EQUIPMENT			
LAB-0324	(U) EGRESS PROCEDURES			
ACAD-0400	(U) CH-53D CREW CHIEF CBT COMPLETE			
LAB-0421	(U) DAILY INSPECTION			

LAB-0422	(U) TURNAROUND			
INST-0500	(U) COMPUTER AIDED INSTRUCTION			
INST-0501	(U) LAB PERIOD OF INSTRUCTION			
INST-0502	(U) INSTRUCTIONAL SKILLS			
INST-0503	(U) PERIOD OF INSTRUCTION			
EVAL-0600	(U) PLANE CAPTAIN DUTIES			
0601	(U) PLANE CAPTAIN DUTIES REVIEW			

ENLISTED AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET ACADEMIC TRACKER	
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING	
NAME (Last, first, middle initial)	Last 4 SSN

T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	ADDITIONAL FRS PHASE ACADEMIC/GROUND CLASSES (0000)	DD/MM/YY	NAME OR SELF PACED	NAME

AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET ACADEMIC TRACKER				
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING				
NAME (Last, first, middle initial)		Last 4 SSN		
T&R CODE	ACADEMIC SYLLABUS	DATE	INSTRUCTOR	ENTERED BY
	CORE SKILL PHASE (2000)	DD/MM/YY	NAME OR SELF PACED	NAME
ACAD-2004	(S) AAR / ALE 47			
ACAD-2012	(S) APR-39			
ACAD-2018	(S) ALQ-157 (CH-53D)			
ACAD-2019	(S) AAQ-24			
ACAD-2050	(U) EA Tactical AC considerations & resp			
ACAD-2051	(U) EA Terrain flight for enlisted aircrew			
ACAD-2052	(U) EA Night vision training			
ACAD-2053	(U) EA Fundamentals of aerial gunnery			
ACAD-2054	(U) EA XM-218/GAU-16A machine gun			
ACAD-2055	(U) EA GAU-21 .50 cal machine gun			
ACAD-2056	(U) EA Laser aiming devices			
ACAD-2057	(U) EA Laser boresighting			
ACAD-2058	(U) EA Basic principles of escort operations			
MISSION SKILL PHASE (3000)				
ACAD-3002	(U) NEO EXECUTION			
ACAD-3004	(S) PERSONNEL RECOVERY			
ACAD-3005	(S) CH53 SPECIFIC TRAP TTPS			
ACAD-3006	(U) CASEVAC			
CORE PLUS SKILL PHASE (4000)				
ACAD-4011	(U) EA Aviation Delivered Ground Refueling TBFDS (CH-53E) / MK-105 (CH-53D)			
ACAD-4050	(U) EA Basic principles of electronic warfare			
ACAD-4051	(U) EA Defensive measures			
ACAD-4052	(U) EA Defensive measures part 2 (CH-53)			
ACAD-4053	(U) EA Training the tail gunner			

ENLISTED AIRCREW PERFORMANCE RECORD/QUALIFICATION JACKET ACADEMIC TRACKER	
SECTION IIIB-AIRCREW ACADEMIC/GROUND SCHOOL TRAINING	
NAME (Last, first, middle initial)	Last 4 SSN

T&R CODE	ACADEMIC SYLLABUS ADDITIONAL PHASE ACADEMIC/GROUND CLASSES (2000-8000)	DATE DD/MM/YY	INSTRUCTOR NAME OR SELF PACED	ENTERED BY NAME

CH-53 AIRCREW TRAINING FORM

FLIGHT EVAL	Q	U	DND	NA
GENERAL				
-CC / AO RESPONSIBILITIES				
EMERGENCY PROCEDURES				
A/C CONFIGURATION/PREPARATION				
UNDERSTANDING OF MISSION				
CRM				
SITUATIONAL AWARENESS				
ASSERTIVENESS				
DECISION MAKING				
COMMUNICATION				
LEADERSHIP				
ADAPTABILITY/FLEXIBILITY				
MISSION ANALYSIS				
INTERNALS				
BRIEF PAX				
LOAD/UNLOAD PAX				
LOAD/UNLOAD CARGO				
HIE				
FORM				
WINGMAN RESPONSIBILITIES				
TAC FORM MANEUVERS				
CALS				
STANDARD TERMINOLOGY				
A/C CLEARANCE				
LZ / TERRAIN SUITABILITY				
TERF				
STANDARD TERMINOLOGY				
A/C CLEARANCE				
LOOKOUT DOCTRINE				
TERF MANEUVERS				
EXTERNALS				
SYSTEM PREFLIGHT/KNOWLEDGE				
LOAD PRE-FLIGHT				
HST PROCEDURES/CONSIDERATION				
STANDARD TERMINOLOGY				
COMMUNICATION FLOW				
DRIFT CORRECTION/ANTICIPATION				
LOAD CLEARANCE				

FLIGHT EVAL	Q	U	DND	NA
GTR RADAR/NON RADAR				
STANDARD TERMINOLOGY				
THREAT RECOGNITION				
THREAT REACTION				
HAAR				
WINGMAN RESPONSIBILITIES				
CABIN CONFIGURATION				
FUEL MANAGEMENT				
CARRIER QUALIFICATION				
STANDARD TERMINOLOGY				
COMMUNICATION FLOW				
SHIPBOARD PROCEDURES				
FLIGHT PATTERNS				
LSE CONSIDERATIONS				
AERIAL GUNNERY				
WEAPONS/LASER PREPARATION				
WEAPONS/LASER KNOWLEDGE				
WEAPONS/LASER EMPLOYMENT				
TACTICS				
PRODUCT UNDERSTANDING/USAGE				
LOOKOUT DOCTRINE				
ACTIONS IN THE OBJECTIVE AREA				
MISSION EXECUTION				
NIGHT ENVIRONMENT				
NVG KNOWLEDGE				
NVG PREPARATION				
NVG USAGE				
NIGHT ENVIRONMENT CONSIDERATION				
DM				
LOOKOUT DOCTRINE				
STANDARD TERMINOLOGY				
BOGEY/BANDIT ACQUISITION				
BOGEY/BANDIT HANDOFF				
SUGGESTED MANEUVER				
ASE EMPLOYMENT				
ADGR				
SYSTEM KNOWLEDGE/INSTALL				
FARP OPERATIONS				

MISSION / A/C PREPARATION:

BRIEF:

EXECUTION:
LOCATION:
WEATHER:
LIGHT LEVEL:
FLIGHT:

DEBRIEF:

SIGNATURE:

STRENGTHS:

DATE OF FLIGHT | **FLIGHT TIME**

LANDINGS/ EXTERNALS | **NAVFLIR #**

WEAKNESSES:

INSTRUCTOR | **STUDENT**

RECOMMENDATIONS:

TRAINING CODE

Q: PUI met or exceeded performance standards.
U: PUT did not meet performance standards.
DND: Skill required for event completion, but was not completed
N/A: Skill not applicable to this event