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From: Commandant of the Marine Corps
To: Distribution List

Subj: KC-130T TRAINING AND READINESS MANUAL

Ref: (a) NAVMC 3500.14C

Encl: (1) KC-130T T&R Manual

1. Purpose. In accordance with reference (a), the Training and Readiness (T&R) Manual, contained in enclosure (1), encompasses revised standards and regulations regarding the training of KC-130T aircrew.

2. Cancellation. NAVMC 3500.52B

3. Scope. Highlights of major training and readiness planning considerations included in this KC-130T T&R Manual are as follows:

a. The Flight Mechanic and Loadmaster chapters were merged into the Crew Master chapter.

b. A new Series Conversion (SC) Pilot syllabus is more closely aligned with the refresher syllabus. It leverages the experience and previous qualifications of SC Pilots.

c. Chapter 1 now mirrors the KC-130J T&R Chapter 1 with regard to covering scalable detachments in increments of three up to a full twelve plane squadron.

d. Addition of a new table - Core Model Training Standard; applies to the optimum training proficiency for Core, Mission, Core Plus skills, and Instructor Training.

4. Information. Recommended changes to this manual should be submitted via the syllabus sponsor and the appropriate chain of

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4. Information. Recommended changes to this manual should be submitted via the syllabus sponsor and the appropriate chain of command to: Commanding General (CG), Training and Education Command (TECOM), Marine Air Ground Task Force Training and Education Standards (MTESD) Division (C 465), Aviation Standards Branch, Quantico, Virginia 22134 using standard Naval correspondence or the Automated Message Handling System plain language address: CG TECOM MTESD.

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

6. Certification. Reviewed and approved this date.

T. M. MURRAY
By direction

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CHAPTER 1

KC-130T TRAINING AND READINESS UNIT REQUIREMENTS

CHAPTER 1

KC-130T TRAINING AND READINESS UNIT REQUIREMENTS

1.0 TRAINING AND READINESS REQUIREMENTS. The Marine Aviation Training and Readiness (T&R) Program provides the Marine Air-Ground Task Force (MAGTF) commander with an Aviation Combat Element (ACE) capable of executing the six functions of Marine Aviation. The T&R Program is the fundamental tool used by commanders to construct, attain, and maintain effective training programs. The standards established in this program are validated by subject matter experts to maximize combat capabilities for assigned METs while conserving resources. 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.

1.1 VMGR MISSION. Support the MAGTF Commander by providing air-to-air refueling and assault support, day or night under all weather conditions during expeditionary, joint, or combined operations.

1.2 VMGR TABLE OF ORGANIZATION (T/O). Refer to Table of Organization managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for KC-130T squadrons. As of this publication date; VMGR Squadrons are authorized:

KC-130T Table of Organization					
Squadron	VMGR-234	VMGR-452	Squadron (-)	Detachment	Detachment
T/O #	8820A	8820B	9 Aircraft	6 Aircraft	3 Aircraft
KC-130T	12	12	9	6	3
Pilots	48	49	33	22	11
TPC	32	33	21	14	7
CP (T2P/T3P)	16	16	12	8	4
TSO	31	32	16	11	5
Flight Engineer	26	26	18	12	6
Crewmaster	48	45	36	24	12

1.3 SIX FUNCTIONS OF MARINE AVIATION

SIX FUNCTIONS OF MARINE AVIATION		
FUNCTION	ABBREVIATION	DESCRIPTION
Offensive Air Support	OAS	OAS involves air operations that are conducted against enemy installations, facilities, and personnel in order to directly assist in the attainment of MAGTF objectives by destroying enemy resources or isolating enemy military forces. Its primary support of the warfighting functions is to provide fires and force protection through CAS and DAS.
Assault Support	ASPT	ASPT contributes to the warfighting functions of maneuver and logistics. Maneuver warfare demands rapid, flexible maneuverability to achieve a decision. Assault support uses aircraft to provide tactical mobility and logistic support to the MAGTF for the movement of high priority personnel and cargo within the immediate area of operations (or the evacuation of personnel and cargo).
Anti-Air Warfare	AAW	AAW is the actions used to destroy or reduce the enemy air and missile threat to an acceptable level The primary purpose of AAW is to gain and maintain whatever degree of air superiority is required; this permits the conduct of operations without prohibitive interference by opposing air and missile forces. AAW's other purpose is force protection.
Electronic Warfare	EW	EW is any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. EW supports the warfighting functions of fires, command and control, and intelligence through the three major subdivisions: electronic attack, electronic protection, and electronic warfare support.
Control of Aircraft & Missiles	CoA&M	The control of aircraft and missiles supports the warfighting function of Command and Control. The ACE commander maintains centralized command, while control is decentralized and executed through the Marine Air Command and Control System (MACCS). CoA&M integrates the other five functions of Marine Aviation by providing the commander with the ability to exercise Command and Control authority over Marine Aviation assets.
Aerial Reconnaissance	AerRec	AerRec employs visual observation and/or sensors in aerial vehicles to acquire intelligence information. It supports the intelligence warfighting function and is employed tactically, operationally, and strategically. The three types of air reconnaissance are visual, multi-sensor imagery, and electronic.

1.4 ABBREVIATIONS

VMGR KC-130T	
CORE SKILLS (2000 PHASE)	
NS	NIGHT SYSTEMS
FAM	FAMILIARIZATION
LRN	LONG RANGE NAVIGATION
TN	TACTICAL NAVIGATION
LAT	LOW ALTITUDE TACTICS
FORM	FORMATION
SEC FORM	SECTION FORMATION
DIV FORM	DIVISION FORMATION
TR	THREAT REACTION
RF TR	RADAR THREAT REACTION
IR TR	IR THREAT REACTION
MISSION SKILLS (3000 PHASE)	
ALZ	ASSAULT LANDING ZONE
AT	CARGO AND PASSENGER LOADING
AAR	AIR-TO-AIR REFUELING
ADGR	AVIATION DELIVERED GROUND REFUELING
AD	AIR DELIVERY
CORE PLUS SKILLS (4000 PHASE)	
TN	TACTICAL NAVIGATION
AAR	AIR-TO-AIR REFUELING
TR	THREAT REACTION
RF TR	RADAR THREAT REACTION
DT	DEFENSIVE TACTICS
AD	AIR DELIVERY
CORE PLUS MISSION SKILLS (4000 PHASE)	
BI	BATTLEFIELD ILLUMINATION

1.5 DEFINITIONS

TERM	DEFINITION
Core Model	The Core Model is the basic foundation or standardized format by which all T&Rs are constructed. The Core model provides the capability of quantifying both unit and individual training requirements and measuring readiness. This is accomplished by linking community Mission Statements, Mission Essential Task Lists, Output Standards, Core Skill Proficiency Requirements and Combat Leadership Matrices
Core Skill	Fundamental, environmental, or conditional capabilities required to perform basic functions. These basic functions serve as tactical enablers that allow crews to progress to the more complex Mission Skills. Primarily 2000 Phase events but may be introduced in the 1000 Phase.
Mission Skill	Mission Skills enable a unit to execute a specific MET. They are comprised of advanced event(s) that are focused on MET performance and draw upon the knowledge, aeronautical abilities, and situational awareness developed during Core Skill training. 3000 Phase events.
Core Plus Skill	Training events that can be theater specific or that have a low likelihood of occurrence. They may be Fundamental, environmental, or conditional capabilities required to perform basic functions. 4000 Phase events.
Core Plus Mission	Training events that can be theater specific or that have a low likelihood of occurrence. They are comprised of advanced event(s) that are focused on Core Plus MET performance and draw upon the knowledge, aeronautical abilities, and situational awareness. 4000 Phase events.
Core Skill Proficiency (CSP)	CSP is a measure of training completion for 2000 Phase events. CSP is attained by executing all events listed in the Attain Table for each Core Skill. The individual must be simultaneously proficient in all events within that Core Skill to attain CSP.
Mission Skill Proficiency (MSP)	MSP is a measure of training completion for 3000 Phase events. MSP is attained by executing all events listed in the Attain Table for each Mission Skill. The individual must be simultaneously proficient in all events within that Mission Skill to attain MSP. MSP is directly related to Training Readiness.
Core Plus Skill Proficiency (CPSP)	CPSP is a measure of training completion for 4000 Phase "Skill" events. CPSP is attained by executing all events listed in the Attain Table for each Core Plus Skill. The individual must be simultaneously proficient in all events within that Core Plus Skill to attain CPSP
Core Plus Mission Skills Proficiency (CPMP)	CPMP is a measure of training completion for 4000 Phase "Mission" events. CPMP is attained by executing all events listed in the Attain Table for each Core Plus Mission. The individual must be simultaneously proficient in all events within that Core Plus Mission to attain CPMP
Core Model Training Standard (CMTS)	CMTS is an objective optimum training standard used by squadrons that reflects the number of individuals trained to CSP/MSP, per crew position. The CMTS is for internal squadron planning only and is not utilized for readiness reporting. The numbers are determined by individual communities.
Core Model Minimum Requirement (CMMR)	CMMR represents the minimum crew definition qualifications and designations, the number of crews required per MET, and minimum Combat Leadership requirements for readiness reporting purposes.

1.6 MISSION ESSENTIAL TASK LIST (METL). The METL is a list of specified tasks a unit is expected to execute. Core METs are drawn from the Marine Corps Task List (MCTL), are standardized by type unit, and are used for reporting Core squadron readiness in DRRS-MC. Core Plus METs reflect additional capabilities to support missions or plans which are limited in scope, theater specific, or have a lower probability of execution. Core Plus METs may be included in readiness reporting when contained within an Assigned Mission METL. An Assigned Mission METL consists of only selected METs (drawn from Core and Core Plus METs) necessary for that Assigned Mission. Chapter 7 of the Aviation T&R Program Manual provides additional information on Aviation Training Readiness policy.

VMGR KC-130T		
MISSION ESSENTIAL TASK LIST (METL)		
CORE		
MET	ABBREVIATION	DESCRIPTION
MCT 1.3.3.3.2	ALZ	Conduct Aviation Operations from Expeditionary Shore-Based Sites
MCT 1.3.4.1	AT	Conduct Combat Assault Transport
MCT 1.3.4.2	AAR	Conduct Air Refueling
MCT 1.3.4.2.1	ADGR	Provide Aviation-Delivered Ground Refueling
MCT 4.3.4	AD	Conduct Air Delivery
CORE PLUS		
MET	ABBREVIATION	DESCRIPTION
MCT 1.3.4.3	BI	Provide Aviation Delivered Battlefield Illumination

1.7 MISSION ESSENTIAL TASK (MET) TO SIX FUNCTIONS OF MARINE AVIATION

VMGR KC-130T							
MISSION ESSENTIAL TASK (MET) TO SIX FUNCTIONS OF MARINE AVIATION							
CORE							
MET	ABBREVIATION	SIX FUNCTIONS OF MARINE AVIATION					
		OAS	ASPT	AAW	EW	CoA&M	AerRec
MCT 1.3.3.3.2	ALZ		X				
MCT 1.3.4.1	AT		X				
MCT 1.3.4.2	AAR	X	X				
MCT 1.3.4.2.1	ADGR		X				
MCT 4.3.4	AD		X				
CORE PLUS							
MCT 1.3.4.3	BI	X	X				

1.8 MET TO CORE/MISSION/CORE PLUS SKILL MATRIX. Depicts the relationship between a MET and each Core/Mission/Core Plus/Mission Plus skill associated with the MET for readiness reporting and resource allocation purposes. There shall be a one-to-one relationship between the MET and a corresponding Mission Skill. For example: the MET for EXP shows a one-to-one relationship with the ALZ Mission Skill; the AAR MET shows a one-to-one relationship with the AAR Mission Skill, and so on. Shading indicates Core Plus.

VMGR KC-130T																							
MET TO CORE SKILLS/MISSION SKILLS/CORE PLUS SKILLS/MISSION PLUS SKILLS																							
MET	CORE SKILLS 2000 PHASE										MISSION SKILLS 3000 PHASE					CORE PLUS 4000 PHASE						
																CORE PLUS SKILLS				MISSION PLUS SKILLS		
	FAM	NS	LRN	TN	LAT	FORM	SEC FORM	DIV FORM	TR	IR TR	ALZ	AT	AAR	ADGR	AD	TN	TR	RF TR	DT	AAR	AD	BI
MCT 1.3.3.3.2 ALZ	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			
MCT 1.3.4.2 AAR	X	X		X		X	X	X	X	X			**X**			X	X	X	X	X		
MCT 1.3.4.2.1 ADGR	X	X												**X**								
MCT 4.3.4 AD	X	X		X		X	X	X	X	X					**X**	X	X	X	X		X	
CORE PLUS																						
MCT 1.3.4.3 BI	X	X							X	X							X	X	X			**X**

1.9 MISSION ESSENTIAL TASK (MET) OUTPUT STANDARDS. The following MET output standards are the required level of performance a VMGR 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 VMGR squadron is able to sustain the number of sorties listed below on a daily basis during contingency/combat operations. The sortie rates are based on 2.0 hour average sortie duration. It assumes >70% FMC aircraft and >90% T/O aircrew on hand. If unit FMC aircraft is <70% or T/O aircrew <90%, core capability will be degraded by a like percentage.

VMGR KC-130T SQUADRONS/DETACHMENTS (12/9/6/3 AIRCRAFT)			
MET OUTPUT STANDARDS MATRIX			
CORE			
MET	ABBREVIATION	MAXIMUM DAILY SORTIES SQUADRON/DETACHMENT	MAXIMUM SORTIES PER MET SQUADRON/DETACHMENT
MCT 1.3.3.3.2	ALZ	10/7/5/2	10/7/5/2
MCT 1.3.4.1	AT		10/7/5/2
MCT 1.3.4.2	AAR		10/7/5/2
MCT 1.3.4.2.1	ADGR		2 Points*
MCT 4.3.4	AD		6/4/3/1
CORE PLUS			
MET	ABBREVIATION	MAXIMUM DAILY SORTIES SQUADRON/DETACHMENT	MAXIMUM SORTIES PER MET SQUADRON/DETACHMENT
MCT 1.3.4.3	BI	10/7/5/2	6/4/3/1

*The output standard for Aviation-Delivered Ground Refueling is not stated in sorties but on refueling points provided.

1.10 CORE MODEL MINIMUM REQUIREMENTS (CMMR) FOR READINESS REPORTING (DRRS-MC). The paragraphs and tables below delineate the minimum aircrew qualifications and designations required to execute the MET output standards of para 1.9. 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).

1.10.1 The CMMR Readiness Reporting Matrix delineates the minimum crew definition qualifications and designations, the number of crews required per MET, and minimum Combat Leadership requirements for readiness reporting purposes. 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.

VMGR KC-130T									
CMMR READINESS REPORTING MATRIX									
VMGR MINIMUM CREW QUALIFICATIONS / DESIGNATIONS REQUIRED FOR MET CAPABILITY									
CORE									
MET	CREW POSITION					CREWS REQUIRED PER MET (CREW CMMR)			
	PILOT	COPILOT	TSO	FE	CM	SQDN 12 A/C	SQDN (-) 9 A/C	DET 6 A/C	DET 3 A/C
MCT 1.3.3.3.2 (ALZ)	MSP, TPC	ALZ STAGE COMPLETE*	MSP	MSP	1 MSP/ 1 STAGE COMPLETE*	6	4	3	1
MCT 1.3.4.1 (AT)	N/A	N/A	N/A	N/A	1 MSP	8	6	4	2
MCT 1.3.4.2 (AAR)	MSP, TPC	AAR STAGE COMPLETE*	MSP	MSP	2 x MSP	8	6	4	2
MCT 1.3.4.2.1 (ADGR)	MSP, TPC	ADGR STAGE COMPLETE*	MSP	MSP	1 MSP**/ 2 x STAGE COMPLETE*	6	4	3	1
MCT 4.3.4 (AD)	MSP, TPC	AD STAGE COMPLETE*	MSP	MSP	1 MSP/ 1 STAGE COMPLETE*	4	3	2	1
CORE PLUS									
MET	CREW POSITION					CREWS REQUIRED PER MET (CREW CMMR)			
	PILOT	COPILOT	TSO	FE	CM	SQDN 12 A/C	SQDN (-) 9 A/C	DET 6 A/C	DET 6 A/C
MCT 1.3.4.3 (BI)	MSP, TPC	BI STAGE COMPLETE*	MSP	MSP	1 MSP***/ 2 x STAGE COMPLETE*	4	3	2	1

* Stage Complete is defined as having completed all events for that particular stage but it does not require that the crew member is proficient in those events.

** One crew member shall be a Refueling Supervisor (RS).

*** One crew member shall be a Quality Assurance Safety Officer (QASO).

1.11 CORE MODEL TRAINING STANDARD (CMTS). The CMTS is the optimum training standard reflecting the number of aircrews trained to CSP/MSP, per crew position to execute each stage of flight as detailed below. The CMTS Matrix depicts the training goal and optimum depth of training desired for each squadron as they develop their squadron training plan. It is not utilized for readiness reporting (DRRS-MC) purposes. At a minimum, the CMTS shall enable a squadron to form Core Model Minimum Requirement (CMMR) crews for Mission Skills (and Mission Plus Skills when required). For single-seat aircraft, the number of aircrews trained to MSP standards in the CMTS Matrix and CMMR may be the same.

VMGR KC-130T CMTS MATRIX																
CORE SKILLS (2000 PHASE)																
SKILL	PILOT				TSO				FE				CM			
	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET
NS	18	15	10	5	9	7	5	2	9	7	5	2	18	15	10	5
FAM	24	18	12	6	12	9	6	3	12	9	6	3	N/A	N/A	N/A	N/A
LRN	24	18	12	6	12	9	6	3	12	9	6	3	24	18	12	6
TN	16	12	8	4	8	6	4	2	8	6	4	2	16	12	8	4
LAT	8	6	4	2	4	3	2	1	4	3	2	1	N/A	N/A	N/A	N/A
FORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8	6	4	2	N/A	N/A	N/A	N/A
SEC FORM	16	12	8	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIV FORM	8	6	4	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TR	N/A	N/A	N/A	N/A	6	4	3	1	6	4	3	1	12	9	6	3
IR TR	12	9	6	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MISSION SKILLS (3000 PHASE)																
MISSION	PILOT				TSO				FE				CM			
	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET
ALZ	12	9	6	3	6	4	3	1	6	4	3	1	12	9	6	3
AT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8	6	4	2
AAR	16	12	8	4	8	6	4	2	8	6	4	2	16	12	8	4
ADGR	12	9	6	3	N/A	N/A	N/A	N/A	6	4	3	1	18*	12*	9*	3*
AD	8	6	4	2	4	3	2	1	4	3	2	1	12	9	6	3
CORE PLUS (4000 PHASE)																
CORE PLUS SKILL	PILOT[1]				TSO[1]				FE[1]				CM[1]			
	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET
TN	4/4	3/3	2/2	1/1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RF TR	6/6	4/4	2/2	1/1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TR	N/A	N/A	N/A	N/A	3/1	2/1	1/1	0/1	3/3	1/1	1/1	0/1	N/A	N/A	N/A	N/A
DT	4/4	3/3	2/2	1/1	2/2	1/1	1/1	0/1	2/2	1/1	1/1	0/1	N/A	N/A	N/A	N/A
MISSION PLUS SKILL	PILOT[1]				TSO[1]				FE[1]				CM[1]			
	SQDN	SQDN (-)	DET	DET	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET	SQDN	SQDN(-)	DET	DET
AAR	N/A	N/A	N/A	N/A	4/4	3/3	2/2	1/1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AD	4/4	3/3	2/2	1/1	2/2	1/1	1/1	0/1	2/2	1/1	1/1	0/1	6/6	4/4	2/2	1/1
BI	8/8	6/6	4/4	2/2	4/4	3/3	2/2	1/1	N/A	N/A	N/A	N/A	16/16**	12/12**	8/8**	4/4**

Note[1]: In the Core Plus METS the first number represents the number of individuals the squadron is expected to train at all times in order to retain a cadre of capability within the squadron. The second number represents the number of MET capable individuals the squadron must train if that MET becomes required within an Assigned Mission/Directed Mission Set.

* Three ADGR qualified crew members are required per crew, at least one of which shall be a Refueling Supervisor (RS).

** One crew member shall be a Quality Assurance Safety Officer.

1.12 INSTRUCTOR DESIGNATIONS (5000 Phase)

INSTRUCTOR DESIGNATIONS	PILOTS				TSO				FLIGHT ENGINEER				CREWMASTER			
	12 A/C	9 A/C	6 A/C	3 A/C	12 A/C	9 A/C	6 A/C	3 A/C	12 A/C	9 A/C	6 A/C	3 A/C	12 A/C	9 A/C	6 A/C	3 A/C
BIP	5		3	3												
TSOI					3	2	1	1								
FEI									5	4	3	1				
CPLI													6	5	3	1
CMI													6	5	3	1
SI									*	*	*	*	6	5	3	1
ADI													4	3	2	1
ANI	4	3	2	1	4	3	2	1	4	3	2	1	6	5	3	1
FRSI	3	3														
LATI	4	3	2	1												
NSI	3	2	1	1	3	2	1	0	3	2	1	1	6	5	3	1
WTI	2	2	1	1	2	2	1	0	2	2	1	0	4	3	2	1
DTI	0	0	0	0												
FLSE	2	1	1	1												

*Flight Engineers may augment the Crew Master SI designations.

1.13 REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, AND DESIGNATIONS(RCQD) (6000 Phase)

VMGR KC-130T																
REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, DESIGNATIONS (R,C,Q,D) (6000 Phase) CMMR [T-2]																
QUALIFICATIONS	PILOTS				TSO				FLIGHT ENGINEER				CREWMASTER			
	12 A/C	9 A/C	6 A/C	3 A/C	12 A/C	9 A/C	6 A/C	3 A/C	12 A/C	9 A/C	6 A/C	3 A/C	12 A/C	9 A/C	6 A/C	3 A/C
FCP	4	3	2	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FCF	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	3	2	1	4	3	2	1
COMBAT/FLIGHT LEADERSHIP																
DESIGNATIONS	PILOTS				TSO				FLIGHT ENGINEER				CREWMASTER			
	12 A/C	9 A/C	6 A/C	3 A/C	12 A/C	9 A/C	6 A/C	3 A/C	12 A/C	9 A/C	6 A/C	3 A/C	12 A/C	9 A/C	6 A/C	3 A/C
TPC	18	13	9	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEC LDR	8	6	4	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIV LDR	4	3	2	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TAC RAC	6	5	3	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STRAT RAC	2	1	1	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RC	N/A	N/A	N/A	N/A	2	1	1	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	4	3	1
QASO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	3	2	1

1.14 ORDNANCE REQUIREMENTS. See KC-130T CCRM (Ordnance Module) for specific squadron requirements.

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VMGR

Core

MCT 1.3.3.3.2	Conduct Aviation Operations From Expeditionary Shore-Based Sites
MCT 1.3.4.1	Conduct Combat Assault Transport
MCT 1.3.4.2	Conduct Air Refueling
MCT 1.3.4.2.1	Provide Aviation-Delivered Ground Refueling
MCT 4.3.4	Conduct Air Delivery

Core Plus

MCT 1.3.4.3	Provide Aviation Delivered Battlefield Illumination

MCT 1.3.3.3.2 **Conduct Aviation Operations From Expeditionary Shore-Based Sites (EXP)**

Conditions:

C 2.5.4.1.3 Runway Length:
Long (> 8200 ft); Commercial (5000 to 8200 ft); Short (3500 to 5000 ft); Very short (< 3500 ft).

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources. Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 1.3.1.3.1 Air Temperature
Atmospheric temperature at ground level (degrees Fahrenheit). Descriptors: Hot (> 85 F); Temperate (40 to 85 F); Cold (10 to 39 F); Very cold (< 10 F).

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

C 2.5.4.1.4 Runway Weight Bearing Capacity
Descriptors: Low (C-130).

Standards:
KC-130T [12 A/C Squadron/9 A/C Squadron(-)/6 A/C Det/3 A/C Det]

Personnel

- 18/13/9/4 aircrews formed (KC-130T)
- 90% of squadron T/O personnel MOS qualified and deployable
  - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment

- 70% Full Mission Capable (FMC) aircraft of PAA
  - 8/6/4/2 aircraft (KC-130T)

  OR

  Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training

- 6/4/3/1 Crews ALZ Mission Skill proficient IAW T&R requirements

Output Standards

- **KC-130 T - 10/7/5/2 sorties daily sustained during contingency/combat operations**

MCT 1.3.4.1 Conduct Combat Assault Transport (AT)

Conditions:

C 2.5.4.1.3 Runway Length:
Long (> 8200 ft); Commercial (5000 to 8200 ft); Short (3500 to 5000 ft); Very short (< 3500 ft).
C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)
C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)
C 2.5.4.1.4 Runway Weight Bearing Capacity Low (C-130).
C 1.3.1.3.3 Surface Wind Velocity
The speed at which air moves through the atmosphere at an altitude up to 500 feet.
Descriptors: Light (< 7 mph); Moderate (7 to 24 mph); Strong (25 to 46 mph) KTS -
C 1.1.1.2 Terrain Elevation
Height of immediate terrain in reference to sea level.
Descriptors: Very high (> 10,000 ft); High (6,000 to 10,000 ft); Moderately high (3,000 to 6,000 ft); Moderately low (1,000 to 3,000 ft); Low (500 to 1,000 ft); Very low (< 500 ft).
C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:
KC-130T [12 A/C Squadron/9 A/C Squadron(-)/6 A/C Det/3 A/C Det]

Personnel

- 18/13/9/4 aircrews formed (KC-130T)
- 90% of squadron T/O personnel MOS qualified and deployable
  - o And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment

- 70% Full Mission Capable (FMC) aircraft of PAA
  - o 8/6/4/2 aircraft (KC-130T)

OR

Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.

- Operational support equipment fully supports MCT

Training

- KC-130T - 8/6/4/2 Crews AT/CPL Mission Skill proficient IAW T&R requirements

Output Standards

- **KC-130T - 10/7/5/2 sorties daily sustained during contingency/combat operations**

MCT 1.3.4.2 Conduct Air Refueling (AAR)

Conditions:

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources. Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:
KC-130T [12 A/C Squadron/9 A/C Squadron(-)/6 A/C Det/3 A/C Det]

Personnel:
- 18/13/9/4 aircrews formed (KC-130T)
- 90% of squadron T/O personnel MOS qualified and deployable
  - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:
- 70% Full Mission Capable (FMC) aircraft of PAA
  - 8/6/4/2 F aircraft (KC-130T)
    OR
  - Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:
- KC-130T - 8/6/4/2 Crews AAR Mission Skill proficient IAW T&R requirements

Output Standards:
- **KC-130T - 10/7/5/2 sorties daily sustained during contingency/combat operations**

MCT 1.3.4.2.1 Provide Aviation-Delivered Ground Refueling (ADGR)

Conditions:

C 2.5.4.1.3 Runway Length:
Long (> 8200 ft); Commercial (5000 to 8200 ft); Short (3500 to 5000 ft)

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources. Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

C 2.5.4.1.4 Runway Weight Bearing Capacity: Low (C-130).

Standards:

KC-130T [12 A/C Squadron/9 A/C Squadron(-)/6 A/C Det/3 A/C Det]

Personnel

- 18/13/9/4 aircrews formed (KC-130T)
- 90% of squadron T/O personnel MOS qualified and deployable
  - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment

- 70% Full Mission Capable (FMC) aircraft of PAA
  - 8/6/4/2 F/R/T aircraft (KC-130T)
    OR
  - Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training

- KC-130T - 6/4/3/1 Crews ADGR Mission Skill proficient IAW T&R requirements

Output Standards:

- **Provide (2) refueling points capable of transferring 90 GPM IFR Drogue and Probe, One IFR Pump**

MCT 4.3.4 Conduct Air Delivery (AD)

Conditions:

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources. Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 1.3.1.3.3 Surface Wind Velocity
The speed at which air moves through the atmosphere at an altitude up to 500 feet.
Descriptors: Light (< 7 mph); Moderate (7 to 24 mph); Strong (25 to 46 mph) KTS -

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:

KC-130T [12 A/C Squadron/9 A/C Squadron(-)/6 A/C Det/3 A/C Det]

Personnel

- 18/13/9/4 aircrews formed (KC-130T)
- 90% of squadron T/O personnel MOS qualified and deployable
  - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA
  - 8/6/4/2 aircraft (KC-130T)
    OR
  - Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- KC-130T - 4/3/2/1 Crews AD Mission Skill proficient IAW T&R requirements

Output Standards:

- **KC-130T - 6/4/3/1 sorties daily sustained during contingency/combat operations**

Core Plus

MCT 1.3.4.3 Provide Aviation Delivered Battlefield Illumination (BI)

Conditions:

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards

KC-130T [12 A/C Squadron/9 A/C Squadron(-)/6 A/C Det/3 A/C Det]

Personnel

- 18/13/9/4 aircrews formed (KC-130T)
- 90% of squadron T/O personnel MOS qualified and deployable
  - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment

- 70% Full Mission Capable (FMC) aircraft of PAA
  - 8/6/4/2 T aircraft (KC-130T)
    OR
  - Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training

- KC-130T - 4/3/2/1 Crews proficient in AD-4710 IAW T&R requirements

Output Standards

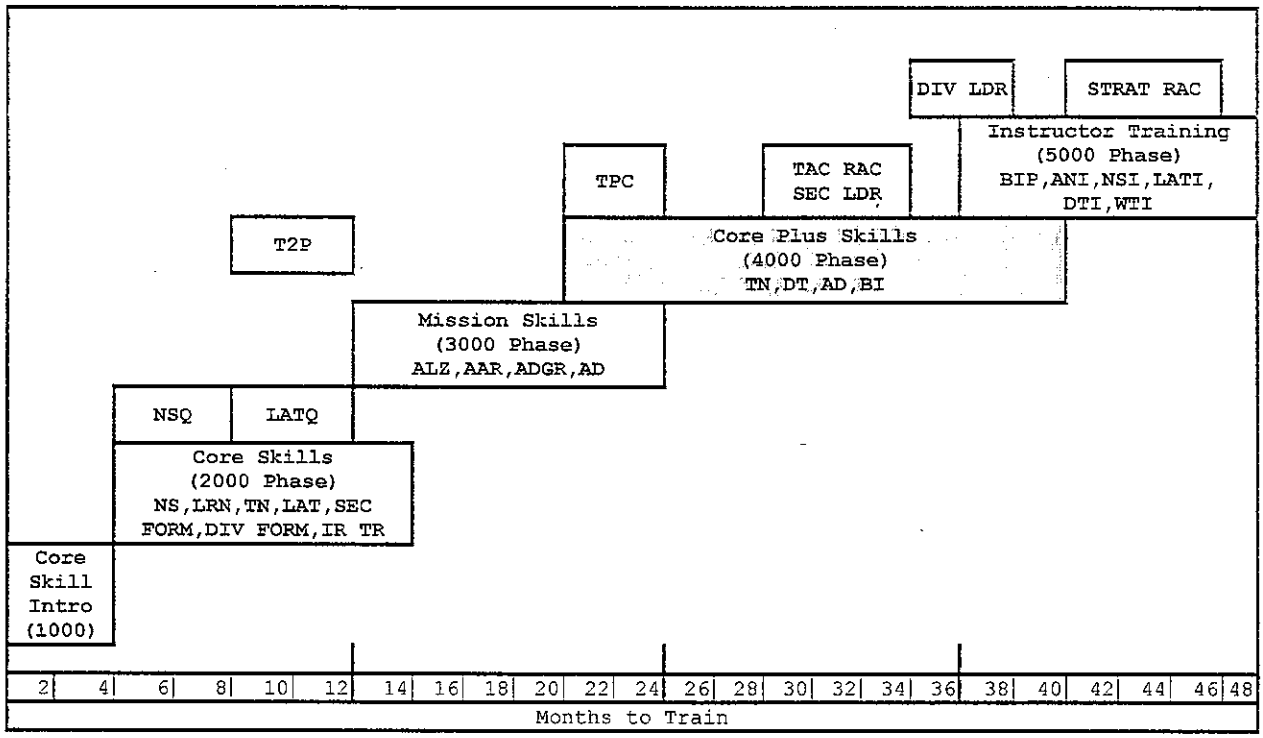
- KC-130T - 6/4/3/1 sorties daily sustained during contingency/combat operations

CHAPTER 2
KC-130T PILOT (MOS 7556/7557)

CHAPTER 2
KC-130T PILOT MOS 7556/7557

2.0 KC-130T PILOT 7556/7557 INDIVIDUAL TRAINING AND READINESS REQUIREMENTS. This T&R syllabus is based on specific goals and performance standards designed to ensure individual proficiency in Core, Mission, and Core Plus Skills. The goal of this chapter is to develop individual and unit war fighting capabilities.

2.1 KC-130T PILOT TRAINING PROGRESSION MODEL. This model represents the recommended training progression for the average KC-130T Pilot. Units should use the model as a point of departure to generate individual training plans.



2.2 INDIVIDUAL CORE/MISSION/CORE PLUS SKILL PROFICIENCY 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.

2.2.1 Management of individual CSP/MSP/CPSP/CPMP serves as the foundation for developing proficiency requirements in DRRS.

2.2.2 Individual CSP is a "Yes/No" status assigned to an individual by Core Skill. When an individual attains and maintains CSP in a Core Skill, the individual counts towards CMMR Unit CSP requirements for that Core Skill.

2.2.3 Proficiency is attained by individual Core/Mission/Core Plus skill where the training events for each skill are determined by POI assignment.

2.2.4 Once proficiency has been attained by Core/Mission/Core Plus Skill (by any POI assignment) then the individual maintains proficiency by executing those events noted in the maintain table and in the "Maintain POI"

column of the T&R syllabus matrix. An individual maintains proficiency by individual Core/Mission/Core Plus Skill.

Note

Individuals may be attaining proficiency in some Core/Mission/Core Plus Skills while maintaining proficiency in other Core/Mission/Core Plus Skills.

2.2.5 Once proficiency has been attained, should one lose proficiency in an event in the "Maintain POI" column, proficiency can be re-attained by demonstrating proficiency in the delinquent event. Should an individual lose proficiency in all events in the "Maintain POI" column by Core/Mission/Core Plus Skill, the individual will be assigned to the Refresher POI for that Skill. To regain proficiency for that Core/Mission/Core Plus Skill the individual must demonstrate proficiency in all R-coded events for that Skill.

KC-130T PILOT ATTAIN AND MAINTAIN TABLE CORE/MISSION/CORE PLUS							
ATTAIN PROFICIENCY						MAINTAIN PROFICIENCY	
BASIC POI		SERIES CONV POI		REFRESHER POI		MAINTAIN POI	
SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #
CORE SKILLS (2000 PHASE)							
FAM	2100R	FAM	2100R	FAM	2100R	FAM	2100R
NS	2150R	NS	2150R	NS	2150R	NS	
	2151R		2151R		2151R		2151R
LRN	2160R	LRN		LRN	2160R	LRN	2160R
TN	2200R	TN		TN	2200R	TN	
	2250R				2250R		
	2251R		2251R		2251R		2251R
LAT	2260R	LAT		LAT	2260R	LAT	
	2261R		2261R		2261R		2261R
SEC FORM	2300R	SEC FORM		SEC FORM	2300R	SEC FORM	
	2350R				2350R		2350R
DIV FORM	2301R	DIV FORM	2301R	DIV FORM	2301R	DIV FORM	2301R
IR TR	2400R	IR TR		IR TR	2400R	IR TR	2400R
MISSION SKILLS (3000 PHASE)							
ALZ	3500R	ALZ	3500R	ALZ	3500R	ALZ	
	3501R				3501R		
	3502R				3502R		3502R
	3550R		3550R		3550R		3550R
AAR	3600R	AAR		AAR	3600R	AAR	3600R
	3601R		3601R		3601R		
	3650R		3650R		3650R		3650R
ADGR	3660R	ADGR		ADGR	3660R	ADGR	3660R
AD	3700R	AD		AD	3700R	AD	
	3750R				3750R		3750R
CORE PLUS (4000 PHASE)							
TN	4200R	TN		TN	4200R	TN	
	4201R				4201R		4201R
	4250R				4250R		4250R
RF TR	4400R	RF TR		RF TR	4400R	RF TR	4400R
DT	4410R	DT		DT	4410R	DT	
	4411R				4411R		4411R
AD	4700R	AD		AD	4700R	AD	4700R
BI	4710R	BI		BI	4710R	BI	4710R

2.3 REQUIREMENT, CERTIFICATION, QUALIFICATION AND DESIGNATION TABLES. The tables below delineate T&R events required to be completed to attain proficiency for select certifications, 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 final events. Certification, qualification and designation letters signed by the commanding officer shall be placed in training Performance Records and NATOPS. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.

INDIVIDUAL QUALIFICATION REQUIREMENTS	
Qualification	**Event Requirements**
LEFT SEAT QUAL	6100
NSQ	2150,2151,2250,2251; {Manual tracking in M-SHARP, 10 hours total NVD time (minimum 5 hours LLL)}
LATQ	2260,2261
DTQ	4410,4411
T3P	6010,6011,6012,6110

INDIVIDUAL DESIGNATION REQUIREMENTS	
Designation	**Event Requirements**
T2P	6010,6011,6012,6013,6111
TPC	6010,6011,6012,6112,6113,6114,6115,6117,6118
Standard Instrument	6130,6030,6031
Special Instrument	6131,6130,6030,6031
FCF PILOT	6106
BIP	5100,6118
SECT LEAD	6300,6301,8630,8660
TACRAC	6311,6301
DIV LEAD	6303,6304,8640,8641,8620
STRATRAC	6314,6304,6311
ANI/NI/NE	5140,5141
FLSE	5320,6305,6312; MAWTS-1 CC
FRSI	5145,5146,5147,5141; 1000 hours in T/M/S
LATI	5210,5211,5212,5213; MAWTS-1 CC
NSI	5150,5151,5152 5153; MAWTS-1 CC
WTI	5999; MAWTS-1 CC
DTI	5410,5411,5412; MAWTS-1 CC

2.4 PROGRAMS OF INSTRUCTION (POI)

2.4.1 General. The time required to train a KC-130T Pilot to completion of the Core Plus phase will vary depending on previous Pilot's experience. Basic (B) and Transition (T) Pilots shall fly the entire syllabus. Refresher and Series Conversion Pilots represent a varying background and should fly flights coded with an (R) or (SC) respectively. All KC-130J Pilots with no prior KC-130F/R/T experience shall attend the abbreviated CIQ course offered by the HTU followed by the SC flying syllabus. Commanding officers will review the qualifications, previous experience, and demonstrated ability of previously qualified KC-130F/R/T/J Pilots with a view towards waiving and/or combining required flights on a case by case basis. When a crewmember completes a stage of training, that crewmember need only maintain proficiency in the R coded events for that stage to remain proficient.

2.4.2 Basic/Transition (B/T) POI. Basic (B) and Transition (T) Pilots shall fly the entire syllabus.

WEEKS	COURSE	PERFORMING ACTIVITY
1-3	USMC C-130 Co-Pilot Initial Qualification (CIQ) Simulator Training	Herc Training Unit NAS JRB Ft. Worth
4-7	Core Skill Introduction Training	Tactical Squadron
8-56	Core Skill Training	Tactical Squadron
56-104	Mission Skill Training	Tactical Squadron
104-188	Core Plus Training	Tactical Squadron

2.4.3 Series Conversion (SC) POI. The Series Conversion (SC) syllabus incorporates an abbreviated CIQ simulator training course, largely mirrors the Refresher syllabus, and is intended to leverage skills and experience already demonstrated by previous KC-130J Aircraft Commanders. SC pilots represent a varying background and should fly all flights and simulator events coded with an SC. Commanding Officers will review the currency, qualifications, experience, and demonstrated ability of SC pilots with a view toward adding, combining, deferring or waiving required flights.

WEEKS	COURSE	PERFORMING ACTIVITY
1-2	Abbreviated USMC CO-PILOT INITIAL QUALIFICATION TRAINING (CIQ)	HERC TRAINING UNIT JRB FT WORTH, TX
3-4	Core Skill Introduction Training	Tactical Squadron
4-13	Core Skill Training	Tactical Squadron
14-17	Mission Skill Training	Tactical Squadron
17-25	Core Plus Training	Tactical Squadron

2.4.4 Modified Refresher/Refresher (MR/R) POI. The MR POI mirrors the R POI. Refresher Pilots represent a varying background and should fly flights coded with an (R). Commanding officers will review the qualifications, previous experience, currency and demonstrated ability of Refresher Pilots with a view towards waiving and/or combining required flights.

WEEKS	COURSE	PERFORMING ACTIVITY
1	Core Skill Introduction Simulator Training	Herc Training Unit NAS JRB Ft. Worth
2-3	Core Skill Introduction Training	Tactical Squadron
3-12	Core Skill Training	Tactical Squadron
13-16	Mission Skill Training	Tactical Squadron
17-24	Core Plus Training	Tactical Squadron

2.4.5 Instructor Pilot POI

WEEKS	COURSE	PERFORMING ACTIVITY
1	Fleet Replacement Squadron Instructor (FRSI)	Tactical Squadron (NE)
1	Basic Instructor Pilot (BIP)	Tactical Squadron
1	NATOPS Instructor	Tactical Squadron
2	Low Altitude Tactics Instructor	Tactical Squadron
1	Defensive Tactics Instructor	MAWTS-1
2	Night Systems Instructor	MAWTS-1
7	Weapons and Tactics Instructor	MAWTS-1
1	Flight Leadership Standardization Evaluator (FLSE)	Tactical Squadron (Program Coordinator)

2.5 FRS ACADEMIC PHASE

2.5.1 Academic training shall be conducted for each phase/stage of the syllabus. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

2.5.2 External academic courses of instruction available to complete the syllabus are listed below:

COURSE	ACTIVITY
Survival, Evasion, Resistance, and Escape (SERE) Course	NAS Brunswick ME NAS North Island CA
NITE lab	Tactical Squadron
Weapons and Tactics Instructor (WTI)	MAWTS-1
Environmental Survival Courses	Regional/Seasonal Survival Schools
Advanced Airlift Tactics Training Course (AATTC)	AATTC, St. Joseph MO

2.6 CORE SKILL INTRODUCTION PHASE (1000)

2.6.1 General

2.6.1.1 The KC-130T Model Manager shall be responsible for Core Skill Introduction phase standardization. Squadrons shall maintain a qualified NATOPS Instructor (NI) responsible for training and qualifying squadron Fleet Replacement Squadron Instructor (FRSI) and Contract Simulator Instructors (CSI). In order to maintain community standardization, the squadron NATOPS Instructor (NI) shall receive a standardization evaluation from the Model Manager every 18 months.

2.6.1.2 All academic requirements for this phase of training are incorporated into the CIQ course, per paragraph 2.4.1.

2.6.1.3 All events in the Core Skill Introduction phase shall be instructed/evaluated by a FRSI/CSI via appropriate aircrew evaluation form.

2.6.1.4 Instructors shall be responsible for mission briefs. Students may conduct a mission brief only after observing the instructor brief a mission in that specific phase.

2.6.1.5 Syllabus Assignment

2.6.1.6 Basic and Transition Pilots. Basic (B) and Transition (T) Pilots shall be assigned to the Basic POI as per paragraph 2.6 and complete the full Core Skill Introduction Phase (1000). Basic and Transition Pilots shall be trained and evaluated in the right seat. Upon completion of Core Skill Introduction training the Pilot will be a designated a NATOPS Transport Third Pilot (T3P), MOS 7556, by the squadron commanding officer. The Pilot will be capable of basic aircraft co-pilot duties to include normal and emergency procedures, crew resource management, and mission planning.

2.6.1.7 Refresher and Series Conversion Pilots. Refresher (R), Modified Refresher (MR), and Series Conversion (SC) Pilots shall be assigned to the Refresher/Series Conversion (R, SC) POI as per paragraph 2.6. TPC/T2P in the Refresher/Series Conversion syllabus shall be trained and evaluated in the left and right seat. A minimum of one flight event shall be flown at night. Upon completion of Core Skill Introduction training the Series Conversion Pilot should be a designated a NATOPS Transport Second Pilot (T2P) by the squadron commanding officer.

2.6.1.8 Stages. The following stages are included in the Core Skill Introduction Phase of training.

Par No.	Stage Name
2.6.2	Familiarization (FAM)
2.6.3	Long Range Navigation (LRN)
2.6.4	Tactical Navigation (TN)
2.6.5	Formation (FORM)
2.6.6	Air to Air Refueling (AAR)

2.6.2 Familiarization (FAM)

2.6.2.1 Purpose. Introduce Pilots to fundamental KC-130 NATOPS, instrument, and CRM procedures.

2.6.2.2 General

2.6.2.3 Basic, Transition and Refresher/Series Conversion third Pilots (T3P) shall be trained and evaluated in the right seat. A minimum of two (N) coded flights shall be flown at night. TPC and T2P refresher/ series conversion pilots shall be trained and evaluated in the left and right seat. One of the (N) coded flights shall be flown at night. Additionally, Basic, Transition, and Series Conversion Pilots should complete the USMC KC-130 CIQ offered by the HTU at NAS JRB Ft. Worth prior to this stage.

2.6.2.4 Crew Requirements. Shall be instructed/evaluated by a FRSI/CSI.

2.6.2.5 Academic/Ground Training

2.6.2.6 Prior to FAM-1100, all Basic, Transition and Series Conversion Pilots will complete a familiarization training evolution to include cockpit management, aircraft preflight and post flight, TFOA inspections, emergency evacuation, and use and donning of all emergency equipment to include bailout training.

Core Skill Introduction syllabus overview.

NATOPS flight manual overview.

VMGR squadron Mission Essential Task List (METL).

Six functions of Marine aviation.

KC-130 capabilities review.

NATOPS briefing techniques.

NITE Lab is optional for Core Skill Introduction training but should be completed at the earliest possible time as it is required to begin the NS stage of Core Skill Training.

SFAM-1001 2.0 * B,SC D E S OFT/WST

Goal. Introduce expanded checklists up to and including takeoff, CRM, aircraft limitations, and performance computations.

Requirement. Introduce expanded cockpit checklists up to the takeoff checklist. The Pilot under instruction shall practice the expanded cockpit checklists to include all appropriate responses and associated actions.

Performance Standard. Per the NATOPS FLIGHT MANUAL (NFM). The Pilot shall be able to recall aircraft limitations with associated checklists.

SFAM-1002 2.0 * B,SC D E S OFT/WST

Goal. Introduce expanded checklists from takeoff to secure; introduce takeoff and approach brief.

Requirement. Introduce expanded cockpit checklists from takeoff to secure. The Pilot shall practice the expanded cockpit checklists up to and including the secure checklist. The Pilot shall practice previously introduced checklists.

Performance Standard. Per the NFM. Pilot shall be able to recall aircraft limitations.

Prerequisite. SFAM-1001.

SFAM-1003 2.0 * B,SC D E S OFT/WST

Goal. Train the Pilot in normal procedures and system malfunctions. Introduce start malfunctions.

Requirement. Introduce start malfunctions. The Pilot shall practice normal checklists and aircraft limitations associated with the checklists. The Pilot should compute Takeoff and Landing Data (TOLD) card.

Performance Standard. Per the NFM. The Pilot shall diagnose and handle all start malfunctions per NFM.

Prerequisite. SFAM-1002.

SFAM-1004 2.0 * B,SC D E S OFT/WST

Goal. Train the Pilot in normal procedures, system malfunctions, and ground emergency procedures.

Requirement. Introduce ground emergencies. The Pilot shall practice normal checklists and start malfunctions. The Pilot should compute TOLD card.

Performance Standard. Per the NFM. Pilot shall diagnose and handle all ground emergencies per NFM.

Prerequisite. SFAM-1003.

SFAM-1005 2.0 * B,R,SC D E S OFT/WST

Goal. Cockpit procedures stage progress review. Review normal checklists, start malfunctions, and emergency procedures. Practice ground emergencies.

Requirement. Review normal checklists, start malfunctions, and emergency procedures. The Pilot shall practice ground emergencies and compute TOLD card.

Performance Standard. Per the NATOPS FLIGHT MANUAL.

Prerequisite. SFAM-1004.

SFAM-1006 4.0 * B,SC D E S OFT/WST

Goal. Train the Pilot in normal procedures, propeller system malfunctions, and emergency procedures.

Requirement. Introduce VFR departure and climb, basic airwork, VFR approach, landings, and abort procedures. The Pilot shall practice VFR approach and landings with coaching as necessary. The Pilot should compute TOLD card.

Performance Standard. Per the NFM. Pilot shall diagnose and handle all aborts and propeller malfunctions per NFM.

Prerequisite. SFAM-1005.

SFAM-1007 4.0 * B,SC D E S OFT/WST

Goal. Train the Pilot in normal procedures, system malfunctions, and emergency procedures. Introduce steep turns and approach to stalls.

Requirement. Introduce steep turns, approach to stalls, and engine systems failures. The Pilot shall practice steep turns and approach to stalls. The Pilot should compute 3-engine go-around capabilities.

Performance Standard. Per the NFM. The Pilot shall diagnose and handle all engine systems malfunctions per NFM.

Prerequisite. SFAM-1006.

SFAM-1008 4.0 * B D E S OFT/WST

Goal. Train the Pilot in normal procedures, electrical system, system malfunctions, emergency procedures, and instrument procedures. Introduce flight planning, clearance procedures, radio NAVAID IFF/SIF management, and GCA approaches.

Requirement. Introduce flight planning, clearance procedures, radio NAVAID IFF/SIF management, and GCA approaches. Introduce electrical system and associated malfunctions. The Pilot shall practice duties associated with instrument flight procedures. The Pilot should compute 3-engine climb performance.

Performance Standard. Per the NFM. The Pilot shall diagnose and handle all electrical malfunctions per NFM.

Prerequisite. SFAM-1007.

SFAM-1009 4.0 * B D E S OFT/WST

Goal. Train the Pilot in normal and instrument flight procedures, bleed air and anti-icing system and malfunctions, and emergency procedures. Introduce ILS procedures.

Requirement. Introduce ILS procedures, and bleed air and anti-icing system malfunctions.

Performance Standard. Per the NFM. Pilot shall diagnose and handle bleed air and anti-icing emergencies per NFM.

Prerequisite. SFAM-1008.

SFAM-1010 4.0 * B D E S OFT/WST

Goal. Train the Pilot in normal and instrument flight procedures, fuel system malfunctions and emergency procedures. Introduce TACAN, VOR, ADF approaches, and holding procedures.

Requirement. Introduce TACAN, VOR, ADF approaches, and holding procedures. Introduce fuel system malfunctions.

Performance Standard. Per the NFM. Pilot shall diagnose and handle fuel system malfunctions per NFM.

Prerequisite. SFAM-1009.

SFAM-1011 4.0 * B D E S OFT/WST

Goal. Train the Pilot in normal procedures, hydraulic system and malfunctions, emergency procedures, and instrument procedures to include circling and penetration/high altitude approaches.

Requirement. Introduce circling approaches, and penetrations/high altitude approaches. Introduce hydraulic malfunctions, trim, flaps, and landing gear failures. The Pilot shall practice circling approaches and penetration/high altitude approaches.

Performance Standard. Per the NFM. The Pilot shall diagnose and handle hydraulic malfunctions and trim, flaps and landing gear failures per NFM.

Prerequisite. SFAM-1010.

SFAM-1012 4.0 * B,R,SC D E S OFT/WST

Goal. Train the Pilot in normal procedures, system malfunctions, emergency procedures, and instrument procedures. Introduce engine-out approaches, landings, and missed approach/go-around procedures. Introduce takeoff continued after engine failure.

Requirement. Introduce engine-out approaches, landings, and missed approach/go-around procedures. Introduce takeoff continued after engine failure. The Pilot should compute certain performance computations.

Performance Standard. Per the NFM. Pilot shall practice takeoff continued after engine failure procedures per NFM.

Prerequisite. SFAM-1011.

SFAM-1013 4.0 * B,R,SC D E S OFT/WST

Goal. Train the Pilot in normal procedures, system malfunctions, emergency procedures, and instrument procedures. Introduce two-engine approach, landing, and go-around. Introduce partial panel/no-gyro approach.

Requirement. Introduce two-engine approach, landing, go-around, and partial panel/no-gyro approaches. Introduce fuel/cargo jettison and NAVAID/radio failure. Pilot shall practice two-engine approaches, landings, and go-around with coaching from the CSI as necessary.

Performance Standard. Per the NFM. The Pilot shall conduct fuel/cargo jettison procedures and handle NAVAID/radio failure per NFM.

Prerequisite. SFAM-1012.

SFAM-1014 2.0 * B,R,SC D E S OFT/WST

Goal. Simulator stage progress review. Review all previously introduced procedures and system malfunctions.

Requirement. Review all previously introduced procedures and system malfunctions.

Performance Standard. Per the NFM. Pilot shall practice all procedures and handle all emergencies per NFM.

Prerequisite. SFAM-1013.

FAM-1100 3.0 * B D E A 1 KC-130

Goal. Train the Pilot in normal flight procedures. Introduce preflight, taxi, take-off, VFR departure, aerodynamic performance, stability and control, approach to stalls, VFR approach, VFR break, 100 percent and 50 percent flap landings.

Requirement. Instructor shall introduce preflight, taxi, take-off, VFR departure, aerodynamic performance, stability and control, approach to stalls, VFR approach, VFR break, 100 percent and 50 percent flap landings. Instructor should introduce start malfunctions. The Pilot should compute VMC, take-off speed, refusal speed, stall speed, climb, approach, threshold, and touchdown speed.

Performance Standard. Per the NFM. Pilot should diagnose and handle all start malfunctions per NFM.

Prerequisite. SFAM-1014.

FAM-1101 3.0 * B,R,SC D E A 1 KC-130

Goal. Train the Pilot in normal and instrument flight procedures. Introduce instrument departure, basic instrument maneuvers to include timed turns, climbs, and descents, GCA procedures, and oil system malfunctions.

Requirement. Instructor shall introduce instrument departure, basic instrument maneuvers to include timed turns, climbs, and descents, GCA procedures, and oil system malfunctions. Instructor shall introduce NAVAID configuration and NAV MODE selector operation. The Pilot shall practice 100 percent and 50 percent flap landings. The Pilot should compute VMC, takeoff speed, refusal speed, specific range, approach, threshold, and touchdown speed.

Performance Standard. Per the NFM and IFM. The Pilot shall diagnose and handle all oil system malfunctions per NFM.

Prerequisite. FAM-1100.

FAM-1102 3.0 * B N E A 1 KC-130

Goal. Train the Pilot in normal procedures, instrument flight procedures to include ILS and Localizer approach procedures, bleed air system malfunctions, and ground emergency procedures.

Requirement. Instructor shall introduce ILS/Localizer procedures, the bleed air system, and ground emergencies. The Pilot shall practice 100 percent and 50 percent flap landings. The Pilot should compute VMC, takeoff speed, refusal speed, approach speed, threshold speed, and touchdown speed.

Performance Standard. Per the NFM and IFM. Pilot shall demonstrate an operational knowledge of the bleed air system. The Pilot shall diagnose and handle ground emergencies per NFM.

Prerequisite. FAM-1101.

FAM-1103 3.0 * B,R,SC (N*) E A 1 KC-130

Goal. Train the Pilot in normal procedures, instrument flight procedures to include TACAN, VOR, and ADF approach procedures, system malfunctions, and emergency procedures.

Requirement. Instructor shall introduce TACAN, VOR, and ADF approaches. Instructor shall introduce hydraulics system. The Pilot should practice TACAN, VOR, and ADF approaches to 100 percent and 50 percent flap landings. The Pilot should compute VMC, takeoff speed, refusal speed, service ceiling (3 engines with pods), approach speed, threshold speed, and touchdown speed.

Performance Standard. Per the NFM and IFM. Pilot shall demonstrate an operational knowledge of the hydraulics system.

Prerequisite. FAM-1102.

FAM-1104 3.0 * B D E A 1 KC-130

Goal. Train the Pilot in normal procedures, instrument flight procedures to include holding, circling approaches and penetrations/high altitude approaches, system malfunctions, abort procedures, and in-flight emergency procedures.

Requirement. Instructor shall introduce abort procedures. Instructor shall introduce holding, circling approaches, penetrations/high altitude approaches, and in-flight emergencies. Pilot should practice circling approaches, penetration/high approaches to 100 percent and 50 percent flap landings. The Pilot should compute VMC, takeoff speed, refusal speed, maximum endurance (4 engines, normal bleed), approach speed, threshold speed, and touchdown speed.

Performance Standard. Per the NFM and IFM. Pilot shall diagnose and handle aborts and in-flight emergencies per NFM.

Prerequisite. FAM-1103.

FAM-1105 3.0 * B,R,SC N* E A 1 KC-130

Goal. Train the Pilot in normal procedures, instrument flight procedures, system malfunctions, in-flight emergency procedures to include engine-out operations.

Requirement. Instructor shall introduce propeller and engine malfunctions. Instructor shall introduce engine-out operations, 3-engine precision approaches, landings, missed approaches and go-around procedures. Pilot should compute VMC, takeoff speed, refusal speed, cruise ceiling (3 engines with pods), approach, threshold, and touchdown speeds.

Performance Standard. Per the NFM and IFM. Pilot shall diagnose and handle propeller and engine malfunctions per NFM.

Prerequisite. FAM-1104.

FAM-1106 3.0 * B D E A 1 KC-130

Goal. Train the Pilot in normal procedures, instrument flight procedures, electrical system malfunctions, and in-flight emergency procedures to include 3-engine non-precision approaches, missed approaches and go-around procedures.

Requirement. Instructor shall introduce 3-engine non-precision approaches, missed approaches and go-around procedures. Instructor shall introduce the electrical system and nacelle overheat warning. Pilot should practice aborts and engine out non-precision approaches and landings. Pilot should compute VMC, takeoff speed, refusal speed, specific range (3 engines, 20,000 feet), 3-engine approach, threshold, and touchdown speeds.

Performance Standard. Per the NFM and IFM. Pilot shall demonstrate an operational knowledge of the electrical system and procedures for nacelle overheat warning.

Prerequisite. FAM-1105.

FAM-1107 3.0 * B,R,SC D E A 1 KC-130

Goal. Train the Pilot in normal procedures, instrument flight procedures, fuel and oxygen system malfunctions, and in-flight

emergency procedures to include fuselage fire and smoke and fume elimination. Introduce take-off continued after engine failure and demonstrate 2-engine approach.

Requirement. Instructor shall introduce 3-engine circling approach and take-off continued after engine failure. Instructor shall introduce fuel and oxygen systems and associated malfunctions. Instructor shall demonstrate 2- engine and no-flap approaches and landings. Flight will be conducted in daylight VFR conditions. Pilot should compute 2-engine VMC (air), takeoff speed, refusal speed, 2-engine downwind, base, approach, threshold, and touchdown speeds.

Performance Standard. Per the NFM and IFM. Pilot shall demonstrate an operational knowledge of the fuel and oxygen systems and associated malfunctions.

Prerequisite. FAM-1106.

FAM-1108 3.0 * B N* E A KC-130

Goal. Train the Pilot in normal procedures, instrument flight procedures to include partial panel/no-gyro approaches. Introduce Auxiliary Power Unit malfunctions. Introduce pressurization, air conditioning, and anti-icing/de-icing system malfunctions, and in-flight emergency procedures.

Requirement. Instructor shall introduce partial panel/no-gyro approaches. Instructor shall introduce APU systems. Instructor shall introduce pressurization, air conditioning, and anti-icing/de-icing systems and associated malfunctions. Pilot should practice all previously introduced procedures. Pilot should compute TOLD card.

Performance Standard. Per the NFM and IFM. Pilot shall diagnose and handle all system malfunctions per NFM.

Prerequisite. FAM-1107.

FAM-1109 3.0 * B,R,SC (N*) E A 1 KC-130

Goal. Familiarization stage progress review. Review NATOPS normal, emergency, and instrument flight procedures.

Requirement. Instructor and Pilot shall review NATOPS normal, emergency, and instrument flight procedures. The Pilot shall perform all maneuvers required for a standard instrument rating. The Pilot should compute TOLD card.

Performance Standard. Per the NFM/IFM and OPNAVINST 3710.7_.

Prerequisite. FAM-1108.

2.6.3 Long Range Navigation (LRN)

2.6.3.1 Purpose. Introduce the Pilot to long range, overwater, International Civil Aviation Organization (ICAO) environment procedures.

2.6.3.2 Crew Requirement. Shall be instructed/evaluated by a FRSI.

2.6.3.3 Academic/Ground Training. ICAO procedures, FLIP APs, and Foreign Clearance Guide familiarization.

LRN-1160 16.0 * B (N*) E A 1 KC-130

Goal. Introduce the Pilot to long-range overwater and ICAO procedures.

Requirement. Instructor shall introduce overwater navigation, CRM, flight publications, fuel management, types of cruise schedules,

factors affecting range, and operation in an ICAO environment. Flight will be conducted in an ICAO environment. Pilot shall compute performance data via overwater progress chart.

Performance Standard. Per the NFM.

Prerequisite. FAM-1105.

2.6.4 Tactical Navigation (TN)

2.6.4.1 Purpose. To introduce Pilots to low level navigation and air delivery operations.

2.6.4.2 Crew Requirements. Shall be instructed/evaluated by a FRSI.

2.6.4.3 Academic/Ground Training

Chart Preparation utilizing Portable Flight Planning System (PFPS).

Low level flight planning and navigation procedures IAW the Tactical Navigation chapter of the KC-130 ANTTP.

Basic Air Delivery Procedures IAW the Air Delivery chapter of the ANTTP.

TN-1200	2.0	*	B	D	E	A	1 KC-130

Goal. Introduce the Pilot to low-level (LL) navigation and simulated air delivery (AD).

Requirement. Instructor shall introduce procedures, limitations, and hazards associated with tactical navigation. Instructor shall introduce AD procedures from LL ingress utilizing a modified slowdown profile. Pilot will plan and navigate a low level route of at least 6 checkpoints. Minimum altitude per T&R Program Manual.

Performance Standard. Per the NFM and ANTTP. Demonstrate competence in time navigation by arriving at the objective within +/-90 seconds.

Prerequisite. FAM-1105.

External Syllabus Support. Military Training Route.

2.6.5 Formation (FORM)

2.6.5.1 Purpose. Introduce Pilots to basic section formation procedures.

2.6.5.2 Crew Requirements. Shall be instructed/evaluated by a FRSI.

2.6.5.3 Academic/Ground Training. KC-130 ANTTP.

FORM-1300	2.0	*	B	D	E	A	2 KC-130

Goal. Introduce the Pilot to section formation procedures.

Requirement. Instructor shall introduce ground formation procedures, takeoff, climb, and join-ups. Instructor shall introduce parade, trail, free cruise positions, and VFR section recovery. Pilot should perform a minimum of 3 join-ups.

Performance Standard. Per the NFM and ANTTP.

Prerequisite. FAM-1105.

External Syllabus Support. Special Use Airspace (SUAS).

2.6.6 Air-to-Air Refueling (AAR)

2.6.6.1 Purpose. To introduce Pilots to basic Air-to-Air Refueling (AAR) procedures.

2.6.6.2 Crew Requirements. Shall be instructed/evaluated by a FRSI. The minimum crew as defined by the NFM and ANTTP is required for flight events to include 1 observer per operated refueling pod.

2.6.6.3 Academic/Ground Training

ATP-56B NATO Air-to-Air Refueling Manual In-flight refueling system.

KC-130 ANTTP

AAR briefing using the Tactical Pocket Guide (TPG).

AAR-1600 3.0 * B (N*) E A 1 KC-130

Goal. Train the Pilot in Fixed-Wing AAR (FWAAR) procedures. Introduce radio procedures, tanker/receiver management, and emergency procedures related to FWAAR.

Requirement. Instructor shall introduce radio procedures, tanker/receiver management, and emergency procedures related to Fixed-Wing AAR. Instructor shall introduce Pilot responsibilities during AAR. Instructor shall introduce emergencies associated AAR to include hose jettison, landing with hose extended, and breakaway procedures.

Performance Standard. Per the NFM, ANTTP, and ATP-56B Part 2.

Prerequisite. FAM-1105.

External Syllabus Support. Fixed-wing receiver aircraft and Special Use Airspace (SUAS).

AAR-1601 3.0 * B D E A 1 KC-130

Goal. Train the Pilot in Helicopter AAR (HAAR) procedures. Introduce radio procedures, tanker/receiver management, and emergency procedures related to HAAR.

Requirement. Instructor shall introduce rendezvous procedures, helicopter refueling procedures, and emergency procedures related to HAAR. Pilot should compute air refueling performance calculations. Flight will be conducted in day VMC conditions. Two (2) rendezvous' shall be conducted IAW the ATP-56 Part 3.

Performance Standard. Per the NFM, ANTTP, and ATP-56B Part 3.

Prerequisite. FAM-1105.

External Syllabus Support. Helicopter receiver aircraft and Special Use Airspace (SUAS).

2.6.7 NATOPS Check

2.6.7.1 Purpose. Conduct a NATOPS evaluation.

2.6.7.2 General. An annual NATOPS check may be conducted any time after completion of the Core Skill Introduction FAM stage. Commanders shall not designate replacement Pilots as a T3P and assign MOS 7556 until satisfactory completion of the entire Core Skill Introduction phase. Upon completion of Core Skill Introduction training the Series Conversion Pilot should be a designated a NATOPS Transport Second Pilot (T2P) by the squadron commanding

officer. The provisions of the NFM and OPNAVINST 3710.7_ apply. All Pilots shall log appropriate RQD code upon completion.

2.6.7.3 Crew Requirements. Shall be instructed/evaluated by an ANI.

2.6.7.4 Academic/Ground Training. Open and Closed book NATOPS examination taken within previous 60 days of flight.

2.7 CORE SKILL PHASE (2000)

2.7.1 General. The focus of Core Skill Phase is to train the Pilot in duties essential to wartime employment. This includes: Left Seat Familiarization Flight (LSF), Night Systems (NS), Long Range Navigation (LRN), Tactical Navigation (TN), Low Altitude Tactics (LAT), Formation (FORM), and IR Threat Reaction (TR). The TPC should conduct the mission brief for each initial event, but all Pilots will assist in the planning of the mission.

2.7.1.1 Pilots shall receive initial training by the appropriate instructor as delineated in the respective event. Once a Pilot has completed the initial event, subsequent events may be flown with proficient aircrew.

2.7.1.2 Pilots conducting initial Night Systems (NS) training shall be instructed by an NSI.

2.7.1.3 At the completion of this phase, the Pilot may be recommended for upgrade to T2P by the APRB. While T2P designation is not a requirement to begin Mission Skill training, it should be obtained as soon as possible to provide the commander a measure of Pilot skill progression.

2.7.1.4 Stages. The following stages are included in the Core Skill Phase of training. Refer to the MAWTS-1 Course Catalog for all stage pre-requisite academic support packages (ASPs).

Par No.	Stage Name
2.7.2	Left Seat Fam (LSF)
2.7.3	Night Systems High [NS(H)]
2.7.4	Long Range Navigation (LRN)
2.7.5	Tactical Navigation (TN)
2.7.6	Low Altitude Training (LAT)
2.7.7	Section Formation (SEC FORM)
2.7.8	Division Formation (DIV FORM)
2.7.9	Infared Threat Reaction (IR TR)

2.7.2 Left Seat Fam (LSF)

2.7.2.1 Purpose. Introduce left seat flight procedures and crew coordination.

2.7.2.2 Crew Requirements. Shall be instructed by an ANI.

LSF 2100 2.0 * B,SC,R,M D A/S 1 KC-130

Goal. Introduce the Pilot to left seat familiarization operations.

Requirements. Left Seat Familiarization Flight shall be flown by an ANI. Instruct the Pilot in normal and emergency procedures on the ground, at altitude and in the terminal environment. The instructor shall demonstrate and introduce the VFR pattern to the student. A minimum of 5 touch and go's and 1 full stop shall be completed by the Pilot. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot shall demonstrate the ability to properly taxi the aircraft, diagnose emergencies and apply corrective

action, understand capabilities and limitations of the aircraft and demonstrate the ability to land the aircraft from the left seat.

Prerequisite. FAM 1000 STAGE

2.7.3 Night Systems (NS)

2.7.3.1 Purpose. To train the Pilot in NS. The Pilot will be capable of performing crew duties using NVDs during High Light Level (HLL) and Low Light Level (LLL) conditions.

2.7.3.2 General

The NSQ qualification syllabus consists of NS-2150, NS-2151, TN-2250, TN-2251 and requires 10 hours of total NVD time with at least 5 hours of Low Light Level (LLL) time. The initial 10 hours shall be flown in the aircraft. Pilots successfully completing these requirements shall be issued a Night Systems Qualified letter by the squadron commanding officer.

Series Conversion Pilots that were previously designated NSQ may be issued the NSQ qualification letter upon successful completion of NS-2150 and NS-2151.

2.7.3.3 Crew Requirements. Pilots conducting initial and refresher Night Systems (NS) training shall be instructed by an NSI.

2.7.3.4 Academic/Ground Training. MAWTS-1 KC-130 NVD 1 and 2 Academic Support Package (ASP) courses and NITE lab.

NS-2150	2.0	365	B,SC,R	NS	A/S	1 KC-130

Goal. Introduce the Pilot to NVD operations under HLL conditions.

Requirements. Instruct the Pilot in the use of NVDs to include normal and emergency procedures at altitude and in the terminal environment. The instructor shall demonstrate and introduce the NVD pattern to the student. A minimum of 5 touch and go's and 1 full stop shall be completed by the Pilot. Emphasize NVD considerations, calibration, preflight, and in-flight normal and emergency procedures. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot shall demonstrate the ability to properly pre-flight and don NVDs, diagnose NVD emergencies and apply corrective action, understand capabilities and limitations of NVDs under HLL conditions, and demonstrate the ability to land the aircraft on NVDs.

Prerequisite. RQD-6110

NS-2151	2.0	180	B,SC,R,M	NS	A/S	1 KC-130

Goal. Introduce Pilot to NVD operations under LLL conditions.

Requirements. Instruct the Pilot in the use of NVDs during LLL conditions to include normal and emergency procedures at altitude and in the terminal environment. The instructor shall demonstrate and introduce the NVD pattern to the student. A minimum of 5 touch and go's and 1 full stop shall be completed by the Pilot. Focus on the capabilities and limitations of the NVDs under LLL conditions, preflight, emergency procedures, calibration, preparation and in-flight use. The Pilot will review NVD mission planning software, and demonstrate knowledge of normal and emergency procedures outlined in

the KC-130 ANTTP and NVD specific items in the MAWTS-1 NVD Fixed-Wing manual. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot shall demonstrate the ability to properly pre-flight and don NVDs, diagnose NVD emergencies and apply corrective action, understand capabilities and limitations of NVDs under LLL conditions and demonstrate the ability to land the aircraft on NVDs.

Prerequisite. 2150

2.7.4 Long Range Navigation (LRN)

2.7.4.1 Purpose. Review long-range, over water navigation procedures and introduce the Pilot to squadron SOPs concerning deployment operations.

2.7.4.2 General

This stage shall train the Pilot in long-range over water navigation to include performance computations, fuel planning, ICAO procedures, and Pilot duties associated with aircraft deployment operations.

Upon completion of this stage, the Pilot shall be capable of deploying as a qualified Pilot on long-range over water operations.

2.7.4.3 Crew Requirements. This sortie may be instructed by a BIP.

2.7.4.4 Academic/Ground Training. The TPC shall introduce mission planning utilizing applicable SOPs, Foreign Clearance Guide, FLIPs, and review performance computations referencing the KC-130T NFM and NATOPS Performance Manual.

LRN-2160 8.0 365 B,R,M (N) A/S 1 KC-130

Goal. Introduce T3P to copilot duties involved in long-range, over water navigation procedures.

Requirement. Review aircraft performance computations to include cruise profiles, fuel planning/monitoring, passenger and crew oxygen requirements, cargo considerations and over water emergency procedures. Pilot administrative duties involving aircraft deployment operations shall also be introduced. Initial flight shall be conducted in aircraft.

Prerequisite. RQD-6110

Performance Standard. The Pilot shall be familiar with the NATOPS Performance Manual, focusing on the different cruise profiles and appropriate application, and be proficient in the use of DOD FLIPs.

2.7.5 Tactical Navigation (TN)

2.7.5.1 Purpose. To attain and maintain the Tactical Navigation Core Skill. Upon completion of this stage, the Pilot will be capable of single ship tactical ingress and egress to mission objective areas during day or night.

2.7.5.2 Crew Requirements. TN-2200 shall be instructed by a BIP. TN-2250 and TN-2251 shall be instructed by an NSI.

2.7.5.3 Academic/Ground Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog and review MAWTS-1 ASPs, NFM and KC-130 ANTTP.

TN-2200 2.0 365 B,R D A/S 1 KC-130

Goal. Introduce the Pilot to day low-level navigation procedures.

Requirements. Initial event shall be instructed by a BIP. Plan and execute a VFR navigation route consisting of at least 6 points on a published MTR. Emphasize chart-to-ground interpretation and tactical pilotage. The route should terminate in an actual or simulated objective area requiring actions from IP inbound. The TSO shall be the primary navigator. Initial flight shall be conducted in aircraft.

Prerequisite. RQD-6110.

Performance Standard. Arrive over the objective +/- 30 seconds; demonstrate an understanding of terrain masking, CRM, timing corrections, chart-to-ground interpretation, and low-level considerations/hazards.

External Syllabus Support. Approved Military Training Route (MTR) or restricted area.

TN-2250 2.0 365 B,R NS A/S 1 KC-130

Goal. Introduce the Pilot to NVD low-level navigation under HLL.

Requirement. The initial event shall be instructed by a NSI. Plan and execute a low-level navigation route consisting of at least 6 points on a published MTR. The route should terminate in an actual or simulated objective area requiring actions from IP inbound (either to a simulated airdrop or self-contained approach). Emphasize chart-to-ground interpretation and tactical pilotage while utilizing NVDs. Initial flight shall be conducted in aircraft.

Performance Standard. Arrive over the objective +/- 30 seconds; demonstrate an understanding of terrain masking, CRM, timing corrections, chart-to-ground interpretation, and NVD considerations/hazards.

Prerequisite. TN-2200

External Syllabus Support. Approved MTR or restricted area.

TN-2251 2.0 180 B,SC,R,M NS A/S 1 KC-130

Goal. Introduce the Pilot to NVD low-level navigation under LLL.

Requirement. The initial event shall be instructed by an NSI. Plan and execute a low-level navigation route consisting of at least 6 points on a published MTR. The route should terminate in an actual or simulated objective area requiring actions from IP inbound (either to a simulated airdrop or self-contained approach). The NSI shall discuss and introduce procedures and CRM required under LLL. Emphasize chart-to-ground interpretation and tactical pilotage while utilizing NVDs. Upon successful completion of this sortie and with the requisite NVD hours the Pilot will be NSQ. Initial flight shall be conducted in aircraft.

Performance Standard. Arrive over the objective +/- 30 seconds; demonstrate an understanding of terrain masking, CRM, timing corrections, chart-to-ground interpretation, and LLL NVD considerations/hazards.

Prerequisite. TN-2200, TN-2250

External Syllabus Support. Approved MTR or restricted area.

2.7.6 Low Altitude Tactics (LAT)

2.7.6.1 Purpose. To attain and maintain the Low Altitude Tactics Core Skill Proficiency. Upon completion of this stage, the Pilot will be capable of single ship low altitude ingress and egress to mission objective areas during the day.

2.7.6.2 General. General LAT Rules of Conduct (ROC) are contained in NAVMC 3500.14 and KC-130 specific LAT guidance is contained in the KC-130 ANTTP. Pilots conducting initial LAT training shall be instructed by a proficient LATI occupying the other Pilot seat. The LAT qualification requirement consists of LAT-2260 and LAT-2261. Upon completion of LAT qualification requirements, Pilots shall be issued a LAT qualification letter from the squadron commanding officer.

2.7.6.3 Crew Requirements. Shall be instructed by a LATI or WTI.

2.7.6.4 Academic/Ground Training. Review the low level navigation and LAT chapters of the KC-130 ANTTP. A squadron LATI or WTI shall administer KC-130 LAT 1, LAT 2, LAT Maneuvering, and KC-130 Stress and Performance Limitations from the MAWTS-1 KC-130 Specific Academic Support Package.

LAT-2260	2.0	180	B,R	D	A/S	1 KC-130

Goal. Demonstrate Pilot LAT procedures.

Requirements. The initial event shall be instructed by a LAT I. The LAT I shall demonstrate flying at comfort level, terrain masking, ridgeline crossing, lookout doctrine, hard turns, break turns, bunts, jinks and IR threat reaction maneuvers. The route flown should afford the opportunity to perform LAT maneuvering, e.g. ridges, valleys, open areas and easily identifiable terrain features. The Pilot will focus on Pilot duties during this sortie. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot must be capable of performing Pilot duties in the LAT/threat environment to include tactical pilotage, secondary navigator, and CRM.

Prerequisite. TN-2200.

External Syllabus Support. LAT approved MTR or restricted area.

LAT-2261	2.0	180	B,SC,R,M	D	A	1 KC-130

Goal. Introduce Pilot LAT procedures.

Requirements. The event shall be instructed by a LAT I. The LAT I shall introduce flying at comfort level, terrain masking, ridgeline crossing, lookout doctrine, hard turns, break turns, bunts, jinks and IR threat reaction maneuvers. The route flown should afford the opportunity to perform LAT maneuvering, e.g. ridges, valleys, open areas and easily identifiable terrain features. The Pilot will focus on Pilot duties during this sortie. Upon successful completion of TN-2261, the Pilot shall be considered LAT Qualified and may be issued an appropriate qualification letter by the squadron commanding officer.

Performance Standard. The Pilot must be capable of performing Pilot duties in the LAT/threat environment to include tactical pilotage, secondary navigator, and CRM.

Prerequisite. TN-2260.

External Syllabus Support. LAT approved MTR or restricted area.

2.7.7 Section Formation (SEC FORM)

2.7.7.1 Purpose. To attain and maintain Section Formation Core Skill Proficiency. Upon completion of this stage, the Pilot will be capable of flying in a section during high altitude tactical ingress/egress in day or night conditions.

2.7.7.2 Crew Requirements. Initial events other than NS shall be flown with a BIP. Initial NS formation training shall be flown with an NSI.

2.7.7.3 Academic/Ground Training. The instructor and student shall review the KC-130 ANTTP Formation chapter.

FORM-2300 2.0 365 B,R D A/S 2 KC-130

Goal. Introduce section formation procedures.

Requirement. The instructor shall introduce day section formation procedures, proper start, taxi, run-up, and takeoff procedures in a formation. Introduce management of all comm/nav equipment as associated with formation flight and proper formation communications procedures. Demonstrate day section formation positions and procedures, break-up/rendezvous and lead changes. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot shall accurately describe formation positions and demonstrate the ability to operate as a KC-130 wingman. Attain and maintain the 45 degree bearing line while in the parade position on the left and right side of lead. Recognize excessive closure and safely execute the underrun procedure. Satisfactory completion of the maneuvers and procedures per the NFM and KC-130 ANTTP.

Prerequisite. RQD-6110.

External Syllabus Support. Special Use Airspace (SUAS).

FORM-2350 2.0 365 B,R,M NS A/S 2 KC-130

Goal. Night formation procedures.

Requirement. Initial event shall be instructed by an NSI. The instructor shall review formation mission briefing requirements and demonstrate NVD formation positions and procedures, break-up and rendezvous and lead change. Introduce proper start, taxi, run-up, takeoff, recovery, and landing procedures in an NVD formation, review proper management of all comm/nav equipment as associated with formation flight and proper formation communications procedures. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot shall accurately describe and demonstrate NVD formation positions, NVD considerations and be familiar with all applicable references.

Prerequisite. FORM-2300

External Syllabus Support. Special Use Airspace (SUAS).

2.7.8 Division Formation (DIV FORM)

2.7.8.1 Purpose. To attain and maintain Division Formation Core Skill Proficiency. Upon completion of this stage, the Pilot will be capable of flying in a Division during high altitude tactical ingress/egress in day or night conditions.

2.7.8.2 Crew Requirements. Initial events other than NS shall be flown with a BIP. Initial NS formation training shall be flown with an NSI.

2.7.8.3 Academic/Ground Training. The instructor and student shall review the KC-130 ANTTP Formation chapter.

FORM-2301 2.0 365 B,R,M (NS) A/S 3+ KC-130

Goal. Introduce division formation procedures.

Requirement. Initial event shall be during the day. The instructor shall introduce division formation procedures, proper start, taxi, run-up, and takeoff procedures in a formation. Introduce management of all comm/nav equipment as associated with formation flight and proper formation communications procedures. Demonstrate division formation positions, procedures, and lead changes. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot shall be capable of applying proper corrective control inputs to establish and maintain dash 3 or 4 formation positions. The Pilot shall demonstrate knowledge of KC-130 division formation considerations.

Prerequisite. FORM-2300. (IF NS - FORM-2350, NSQ (2150, 2151, 2250, 2251 or flown with a NSI)).

External Syllabus Support. Special Use Airspace (SUAS).

2.7.9 Infrared (IR)/Threat Reaction (IRTR)

2.7.9.1 Purpose. To attain and maintain the Threat Reaction (IR) Core Skill in a low to medium infrared (IR) threat environment. Upon completion of this stage, the Pilot will be capable of flying in a ground infrared threat environment during day or night.

2.7.9.2 General. Pilots shall be introduced to the KC-130T ASE suite and mission planning considerations for IR SAM defense. The sortie should focus on aircrew immediate action drills when confronted with threat systems from both front and rear aspects under varying mission profiles. Aircraft must have an operational ASE suite that supports infrared (IR) threat reaction. Ordnance must be expended on all initial events. Subsequent events can be simulated. Appropriate ground threat emitters should be available.

2.7.9.3 Crew Requirements. Shall be instructed by a LATI or WTI.

2.7.9.4 Academic/Ground Training. Review the NFM, KC-130 ANTTP, Classified ANTTP, AFTTP 3-1 Threat Reference Guide. A LATI or WTI should administer the KC-130 ASE classes from the MAWTS-1 KC-130 Specific Academic Support Package.

IRTR-2400 2.0 365 B,R,M (NS) A/S 1 KC-130

Goal. Introduce the operational use of ASE and threat counter-tactics against small arms, AAA and IR SAM threat systems.

Requirement. Introduce the ASE counter measures dispensing system setup, missile warning system setup, jamming system, and threat reaction. The Pilot should be exposed to a variety of threat situations of increasing intensity using both the Automatic and Manual modes of the dispensing system. Threat reaction maneuvering should include the take-off, cruise and approach phases of flight.

Performance Standard. The Pilot should be able to correctly operate the aircraft's ASE suite in an IR SAM environment, and react correctly

and in a timely manner to threat calls. Proper aircrew coordination shall be performed in threat reaction.

Prerequisite. LAT Qualified (2260, 2261), (If NS, then NSQ (2150, 2151, 2250, 2251).

Ordnance. 120 flare expendables (required for initial event).

External Syllabus Support. Appropriate counter-measures range, a Smokey SAM crew with a minimum of 5 Smokey SAMs, MWS stimulator team if available.

2.8 MISSION SKILL PHASE (3000)

2.8.1 General. The focus of the Mission Skill Phase is to train the Pilot in the skills required to meet the Marine Corps Tasks (MCT). These missions include: Assault Landing Zone (ALZ) operations, Air-to-Air Refueling (AAR), Aviation Delivered Ground Refueling (ADGR) and Air Delivery (AD).

2.8.1.1 At the completion of this phase, the Pilot may be recommended for upgrade to Transport Plane Commander (TPC) by the APRB, complete the TPC upgrade syllabus, and be designated a TPC by the squadron commanding officer.

2.8.1.2 Pilots shall receive initial training by the appropriate instructor as delineated in the respective event. Once a Pilot has completed the initial event, subsequent events may be flown with proficient aircrew.

2.8.1.3 Pilots conducting initial Night Systems (NS) training shall be instructed by an NSI.

2.8.1.4 While TPCs remain responsible for the conduct of the mission brief, T2Ps and T3Ps should be introduced to preparing and conducting briefs in this phase in preparation for upgrade.

2.8.1.5 Stages. The following stages are included in the Mission Skill Phase of training. Refer to the MAWTS-1 Course Catalog for all stage pre-requisite ASPs.

Par No.	Stage Name
2.8.2	Assault Landing Zone (ALZ)
2.8.3	Air-to-Air Refueling (AAR)
2.8.4	Aviation Delivered Ground Refueling (ADGR)
2.8.5	Air Delivery (AD)

2.8.2 Assault Landing Zone (ALZ)

2.8.2.1 Purpose. To attain and maintain the Mission Skill of operating from an ALZ. Upon completion of this stage, the Pilot will be capable of day or night ALZ operations and will be knowledgeable of unimproved ground operation considerations.

2.8.2.2 General. The Pilot shall be introduced to DAY and NS ALZ operations with an emphasis on visual and self-contained approach procedures, precision landings to short fields and ground operating procedures in the improved and unimproved environment. Dirt, grass, coral or any other unimproved surface requiring footprint loading analysis should be considered for unimproved ALZs. Emphasis in the unimproved environment is to introduce operating procedures designed to increase safety and reduce wear on the aircraft, footprint loading techniques, and airfield suitability services within the Marine Corps and DOD. For the purposes of this training syllabus, ALZ operations are defined as terminal area operations from an airfield prepared with either day or night EAF markings as defined in the KC-130 ANTTP. Ideally, MMT will be utilized for terminal control with tactical NAVAIDS available.

2.8.2.3 Crew Requirements. Initial ALZ events shall be flown from the left seat and instructed by a WTI, NSI or ANI. All NS ALZ codes shall be instructed by an NSI.

2.8.2.4 Academic/Ground Training. Pilots should review the KC-130 ANTTP ALZ chapter, maximum effort performance calculations in the KC-130 NATOPS Performance Manual, and the ALZ class in the MAWTS-1 KC-130 Specific Academic Support Package.

ALZ-3500 2.0 365 B,SC,R D A/S 1 KC-130

Goal. To fly day, improved ALZ operations.

Requirement. The Pilot shall conduct the ALZ mission brief and prepare a TOLD card for the mission per the NFM. The instructor shall introduce max effort takeoff and landing procedures, and EAF ground operating and taxi procedures. A minimum of 1 max-effort take-off/full-stop and 5 touch and go's shall be completed. A simulated or actual Combat Offload (COL) should be conducted. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot shall consistently land within the 500' touchdown zone and demonstrate the situational awareness to manage crew duties on approach to an ALZ and during departure.

Prerequisite. RQD-6100.

External Syllabus Support. Standard USMC ALZ day panel setup utilizing AMP-1, 2 or 3 markings. MMT or MWSS EAF personnel for terminal control, or USAF Special Tactics Team (SST).

ALZ-3501 2.0 365 B,R (NS) A/S 1 KC-130

Goal. Tactical Arrivals.

Requirement. This flight can be done in conjunction with ALZ-3500, ALZ-3550 or ALZ-3502. The Pilot shall introduce the random high, random low/shallow, IR cooled, and self-contained approaches. Emphasize terrain study with respect to ingress/egress of the terminal area and method of arrival based on threat. Discuss energy management. Initial flight shall be conducted in aircraft.

Performance Standard. Satisfactory completion of the maneuvers and procedures per NFM and KC-130 ANTTP.

Prerequisite. RQD-6100.

External Syllabus Support. Standard USMC ALZ Day or IR lighting setup utilizing AMP-1, 2 or 3 markings. MMT or MWSS EAF personnel for terminal control.

ALZ-3502 2.0 730 B,R,M (NS) A/S 1 KC-130

Goal. Train the Pilot to conduct flight operations at unimproved ALZ.

Requirement. The instructor shall review airfield assessment services available from MWSS and DOD. Discuss footprint loading/ground flotation determination and impacts on KC-130 operations. The Pilot shall conduct the ALZ mission brief and prepare a TOLD card for the mission per the NFM. The instructor shall introduce austere airfield ground and taxi procedures, max effort takeoff and landing procedures from an unimproved surface, and review ALZ approaches. A simulated or actual COL should be conducted during this event. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot shall consistently land within the 500' touchdown zone, and demonstrate the situational awareness to manage crew duties on approach to an ALZ and during departure.

Prerequisite. ALZ-3500 (ALZ-3550 if NS).

External Syllabus Support. Standard USMC ALZ Day or IR lighting or day panel setup utilizing AMP-1, 2 or 3 markings. MMT or MWSS EAF personnel for terminal control.

ALZ-3550 2.0 180 B,SC,R,M NS A/S 1 KC-130

Goal. NVD ALZ operations.

Requirement. The Pilot shall conduct the ALZ mission brief and prepare a TOLD card for the mission per the NFM. The instructor shall introduce NS max effort takeoff and landing procedures, and practice improved EAF ground operating and taxi procedures. A minimum of 1 max-effort take-off/full-stop and 5 touch and go's shall be completed. NVD ALZ considerations/procedures and tactical checklists (max-effort, COL) should be reviewed. CRM shall be emphasized during this event. COL is optional. Initial flight shall be conducted in aircraft.

Performance Standard. The Pilot shall consistently land within the 500' touchdown zone and demonstrate the situational awareness to manage crew duties on approach to an ALZ and during departure.

Prerequisite. ALZ-3500, NS-2150 (IF NS), NS-2151 (IF LLL)

External Syllabus Support. Standard USMC ALZ IR lighting utilizing AMP-1, 2 or 3 markings. MMT or MWSS EAF personnel for terminal control.

2.8.3 Air-to-Air Refueling (AAR)

2.8.3.1 Purpose. To attain and maintain the Air-to-Air Refueling (AAR) Mission Skill. Upon completion of this stage, the Pilot will be capable of fixed wing, tilt rotor, and helicopter AAR operations in the day or night environment.

2.8.3.2 Crew Requirements. Initial AAR events shall be flown by the Pilot in the left seat and instructed by a Basic Instructor Pilot (BIP) with the exception of AAR-3650 which shall be instructed by an NSI. One observer per operated refueling pod is required.

2.8.3.3 Academic/Ground Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog and review MAWTS-1 ASPs, NFM, KC-130 ANTTP, and ATP-56(B).

AAR-3600 3.0 365 B,R,M (N) A/S 1 KC-130

Goal. FWAAR/TRAAR procedures.

Requirement. This event can be flown in either day or night conditions with NVDs optional. Conduct single tanker rendezvous procedures and receiver management. Discuss emergency procedures related with AAR. Focus on basic airwork and navigation/coordination to and from the refueling area. EMCON procedures should be introduced for the completion of the initial syllabus event. Initial flight shall be conducted in aircraft.

Performance Standard. Satisfactorily demonstrate the ability to maintain a stable platform, maintain fuel state awareness and receiver management. Additionally, demonstrate knowledge of normal and

emergency procedures, and CRM outlined in the KC-130 NFM, ANTTP and ATP-56B.

Prerequisite. RQD-6110.

External Syllabus Support. Fixed Wing or Tilt Rotor receiver aircraft and special use airspace.

AAR-3601 3.0 365 B,SC,R D A/S 1 KC-130

Goal. Day Helicopter AAR (HAAR) procedures.

Requirement. This event shall be flown during the day. Fly a rotary-wing AAR mission, conducting a minimum of three (3) rendezvous'. Discuss emergency procedures related to AAR. Focus on basic airwork and navigation/coordination to and from the refueling area. If flown in conjunction with a low level route, plan for an ARCP, ARCT and ENDAR. Initial flight shall be conducted in aircraft.

Performance Standard. Satisfactorily demonstrate the ability to effect the rendezvous, maintain a stable platform, maintain fuel planning awareness and receiver management. Additionally, demonstrate knowledge of normal and emergency procedures outlined in the NFM, ANTTP, and ATP-56B.

Prerequisite. RQD-6110.

External Syllabus Support. Helicopter receiver aircraft and special use airspace.

AAR-3650 3.0 180 B,SC,R,M NS A/S 1 KC-130

Goal. NVD HAAR procedures.

Requirement. Conduct single tanker rendezvous procedures and receiver management. Fly a helicopter AAR mission conducting a minimum of three (3) rendezvous'. The initial event shall be instructed by a NSI. Discuss emergency procedures related to air-to-air refueling and NVD considerations. Focus on basic airwork and navigation/coordination to and from the refueling area. If flown in conjunction with a low level route, plan for an ARCP, ARCT and ENDAR. Initial flight shall be conducted in aircraft.

Performance Standard. Satisfactorily demonstrate the ability to affect the rendezvous, maintain a stable platform, maintain

fuel planning awareness and receiver management. Additionally, demonstrate knowledge of normal and emergency procedures outlined in the NFM, ANTTP, and ATP-56B.

Prerequisite. AAR-3601, NS-2150 (HLL), NS-2151 (LLL).

External Syllabus Support. Helicopter receiver aircraft and special use airspace.

2.8.4 Aviation Delivered Ground Refueling (ADGR)

2.8.4.1 Purpose. To attain and maintain the Aviation Delivered Ground Refueling Mission Skill. Upon completion of this stage, the Pilot will be capable of conducting Aviation Delivered Ground Refueling of aircraft and ground vehicles in any environment, day or night.

2.8.4.2 Crew Requirements. Initial ADGR events shall be instructed by a Basic Instructor Pilot (BIP).

2.8.4.3 Academic/Ground Training. Pilots should review the KC-130 ANTTP ADGR chapter and the ADGR class in the MAWTS-1 KC-130 Specific Academic Support Package.

ADGR-3660 0.0 730 B,R,M (N) A/S 1 KC-130

Goal. Introduce the Pilot to duties during ADGR operations.

Requirement. Instructor shall demonstrate briefing requirements for ADGR operations. Introduce personnel qualifications, duties, responsibilities and ADGR crew coordination. Introduce ADGR equipment, site weapons and passenger considerations, site configurations and threat considerations. Introduce ADGR fuel planning, site setup, operation, and breakdown procedures, and NVD considerations during ADGR operations (optional). If aircraft cockpit lighting is NVD compatible, (NS) applies. Initial flight shall be conducted in aircraft.

Performance Standard. Pilot shall control receivers per the NFM and ANTTP. Integrate with loadmasters in mission planning; ensure that a tanker egress plan has been established and forecast winds are factored for receiver traffic pattern.

Prerequisite. RQD-6110.

External Syllabus Support. Crash/Fire/Rescue Support. Receiver aircraft or ground vehicle (as appropriate).

2.8.5 Air Delivery (AD)

2.8.5.1 Purpose. To attain and maintain the Air Delivery Mission Skill. Upon completion of this stage, the Pilot will be capable of planning and executing an AD of cargo or static line personnel, day or night.

2.8.5.2 General. Initial AD event shall be actual drop of cargo, personnel or a combination. Subsequent updating of the event can be achieved by conducting a simulated drop.

2.8.5.3 Crew Requirements. Initial AD events shall be instructed by a Basic Instructor Pilot (BIP) with the exception of AD-3750 which shall be instructed by an NSI.

2.8.5.4 Academic/Ground Training. Review KC-130 ANTTP Air Delivery chapter, KC-130 Tactical Pocket Guide, and MAWTS-1 KC-130 Specific Academic Support Package.

AD-3700 2.0 365 B,R D A/S 1 KC-130

Goal. Train and evaluate the Pilot in day air delivery procedures.

Requirement. Review personnel, CDS, combination and HE air delivery procedures. The Pilot shall display a sound working knowledge of administrative and logistical requirements associated with DZ coordination and aircraft rigging (load certification). The Pilot shall demonstrate the ability to fly the ingress, objective area profile and manage checklists for AD procedures. Emphasis should be placed on CRM and AD procedures. Initial flight shall be conducted in aircraft.

Performance Standard. Safely perform AD that lands within the drop zone safety criteria.

Prerequisite. RQD-6110.

External Syllabus Support. AD unit of any service for cargo rigging and DZ control.

AD-3750 2.0 365 B,R,M NS A/S 1 KC-130

Goal. Train and evaluate the Pilot in NS air delivery procedures.

Requirement. Review personnel, CDS, combination and HE air delivery procedures while on NVDs. The Pilot shall display a sound working knowledge of administrative and logistical requirements associated with DZ coordination and aircraft rigging (load certification). The Pilot shall demonstrate the ability to fly the ingress, objective area profile and manage checklists for AD procedures. Emphasis should be placed on CRM and AD procedures. Initial flight shall be conducted in aircraft.

Performance Standard. Safely perform AD that lands within the drop zone safety criteria.

Prerequisite. AD-3700

External Syllabus Support. AD unit of any service for cargo rigging and DZ control.

2.9 CORE PLUS SKILL PHASE (4000)

2.9.1 General. Upon completion of this phase of training, the Pilot will be qualified to plan and execute low level section formation operations, RADAR Threat Reaction (RF TR), Air-to-Air Defensive Tactics (DT), advanced Air Delivery (AD), and Battlefield Illumination (BI).

2.9.1.1 Stages. The following stages are included in the Core Plus Phase of training. Refer to the MAWTS-1 Course Catalog for all stage pre-requisite ASPs.

Par No.	Stage Name
2.9.2	Tactical Navigation (TN)
2.9.3	Threat reaction (RF TR)
2.9.4	Defensive Tactics (DT)
2.9.5	Air Delivery (AD)
2.9.6	Battlefield Illuminations (BI)

2.9.2 Tactical Navigation (TN)

2.9.2.1 Purpose. To attain and maintain the Core Plus Skill of TN Formation. Upon completion of this stage, the Pilot will be capable of flying as lead or -2 in a section formation in the low level/LAT environment. Emphasize low altitude formation techniques, formation control, tactical formations and mutual support in a low to medium threat environment.

2.9.2.2 Crew Requirements. The initial TN-4200 event shall be instructed by a Basic Instructor Pilot (BIP). The initial TN-4201 event shall be instructed by a LATI. The initial TN-4250 event shall be instructed by an NSI.

2.9.2.3 Academic/Ground Training. Review the Formation, Low Level Navigation and LAT Chapters of the KC-130 ANTTP. Review LAT 1, LAT 2, LAT Maneuvering, and KC-130 Stress and Performance Limitations. These courses can be found in the MAWTS-1 KC-130 Specific Academic Support Package.

TN-4200 2.0 365 B,R D A/S 2 KC-130

Goal. Introduce the Pilot to formation low-level procedures.

Requirement. The initial event shall be instructed by a Basic Instructor Pilot (BIP). This sortie shall be flown as a section. Plan and execute a VFR navigation route consisting of at least 6 points. The Pilot shall fly as a wingman. Emphasize terrain clearance and

tactical formation positions and mutual support. The route should terminate in an actual or simulated objective area requiring actions from IP inbound (either to a simulated airdrop or self-contained approach). The initial sortie shall be conducted from the left seat. Initial flight shall be conducted in aircraft.

Performance Standard. Demonstrate ability to fly a tactical formation while maintaining terrain clearance in the low level environment.

Prerequisite. TN-2200, FORM-2300

External Syllabus Support. Approved MTR or training area.

TN-4201 2.0 180 B,R,M D A/S 2 KC-130

Goal. Introduce the Pilot to formation LAT.

Requirement. The initial event shall be instructed by a LATI. This sortie shall be flown as a section. Plan and execute a VFR navigation route consisting of at least 6 points. The Pilot shall fly as a wingman emphasizing terrain clearance and tactical formation positions while providing mutual support in a threat environment. The route should terminate in an actual or simulated objective area requiring actions from the IP inbound (either to a simulated AD or self-contained approach). The initial sortie shall be conducted from the left seat. Initial flight shall be conducted in aircraft.

Performance Standard. Demonstrate the ability to fly in a tactical formation while maintaining terrain clearance in the LAT environment.

Prerequisite. TN-2261, TN-4200

External Syllabus Support. Approved MTR or training area.

TN-4250 2.0 180 B,R,M NS A/S 2 KC-130

Goal. Introduce the Pilot to NS formation low-level procedures.

Requirement. The initial event shall be instructed by an NSI. This sortie shall be flown as a section. Plan and execute a VFR navigation route consisting of at least 6 points while on NVDs. The Pilot shall fly as a wingman. Emphasize terrain clearance and tactical formation positions and mutual support. The route should terminate in an actual or simulated objective area requiring actions from IP inbound (either to a simulated airdrop or self-contained approach). The initial sortie shall be conducted from the left seat. Initial flight shall be conducted in aircraft.

Performance Standard. Demonstrate ability to fly a tactical formation while maintaining terrain clearance in the low level environment.

Prerequisite. FORM-2350, TN-4200.

External Syllabus Support. Approved MTR or training area.

2.9.3 RF Threat Reaction (RF TR)

2.9.3.1 Purpose. To attain and maintain the Core Plus Skill of Threat Reaction (RF TR) in a RADAR threat environment. Upon completion of this phase, the Pilot will be capable of flying in a ground RADAR threat environment during day or night.

2.9.3.2 General. Aircraft must have an operational ASE suite that supports radio frequency (RF) threat reaction. Appropriate chaff shall be

loaded prior to flight. Appropriate ground threat emitters shall be available.

2.9.3.3 Crew Requirements. Shall be instructed by a LATI or WTI.

2.9.3.4 Academic/Ground Training. Review the NFM, KC-130 ANTTP, Classified ANTTP, AFTTP 3-1 Threat Reference Guide. A WTI should administer the KC-130 ASE classes from the MAWTS-1 KC-130 Specific Academic Support Package.

RF TR-4400 2.0 365 B,R,M (NS) A/S 1 KC-130

Goal. Introduce surface RADAR threat during a tactical mission profile.

Requirement. Practice maneuvering the aircraft against surface-based threat emitters utilizing the RWR, and CMDS in conjunction with a tactical mission profile. Conduct multiple passes against simulated RADAR threat systems (from acquisition through target tracking to launch) and initiate appropriate maneuvers and countermeasures. Emphasis should be placed on configuration of the system for operations in a RADAR threat environment and CRM. IR threat reaction should also be practiced during this event.

Performance Standard. The Pilot shall demonstrate the ability to properly configure the CMDS for operations in a RADAR threat environment, and defend against RADAR acquisition, target tracking and launch sequences.

Prerequisite. 2260,2261, (If NS, then NSQ (2150, 2151, 2250, 2251))

Ordnance. 160 chaff, 120 flares.

External Syllabus Support. Approved emitter range or restricted area with mobile emitters available. SUAS authorized for expendables.

2.9.4 Defensive Tactics (DT)

2.9.4.1 Purpose. To attain and maintain the Core Plus Skill of employing Defensive Tactics against an air threat by combining maneuver and use of the ASE suite. Upon completion of this stage, the Pilot will be capable of flying against 1 or 2 adversaries.

2.9.4.2 General. Use of the Rear Vision Device (RVD) and ASE suite is recommended. Non-DT qualified Pilots or non-proficient DT Pilots who are conducting DT training shall be instructed by a DTI occupying the other Pilot seat. The DT qualification requirements consist of DT-4410 and DT-4411. Upon successful completion of qualification requirements, Pilots shall be issued a DT qualification letter from the squadron commanding officer.

2.9.4.3 Crew Requirements. Shall be instructed by a DTI. An additional member to utilize the RVD is recommended.

2.9.4.4 Academic/Ground Training. Review the KC-130 ANTTP, Classified ANTTP, and AFTTP 3-1 Threat Reference Guide concerning air-to-air threats. Review the KC-130 ASE, DT, Stress & Performance Limitations and Threat Counter-tactics classes from the MAWTS-1 KC-130 Specific Academic Support Package.

DT-4410 2.0 365 B,R D A 1 KC-130

Goal. Train in defensive maneuvering in relation to an air-to-air threat. This sortie shall be flown as a 1 vs. 1.

Requirement. The DTI shall brief and introduce DT briefing requirements. Practice defensive maneuvers with emphasis on hard turns, break turns, maneuvering velocity, one-circle/two-circle fights and negating tracking solutions. The flight preparation for this event shall include threat analysis, ASE and expendable integration with regard to the threat, and a detailed aircrew brief on threat reaction throughout all phases of an attack. CRM shall be emphasized to include incorporation of the RVD, aircrew lookout doctrine/scan sectors and threat call template. An event debrief with the aggressor Pilot is recommended.

Performance Standard. The Pilot should demonstrate a working knowledge of A/A RADAR, A/A gun and IR missile defense and one-circle/two-circle considerations.

Prerequisite. 2260,2261,4400

Ordnance. 160 chaff, 120 flares.

External Syllabus Support. Single aggressor aircraft and approved airspace. SUAS authorized for expendables.

DT-4411 2.0 365 B,R,M D A 1 KC-130

Goal. Train in defensive maneuvering in relation to an air-to-air threat. This sortie shall be flown as a 1 vs. 2.

Requirement. Practice defensive maneuvers with emphasis on hard turns, break turns, maneuvering velocity, one-circle/two-circle fights and negating tracking solutions. The flight preparation for this event shall include threat analysis, ASE and expendable integration with regard to the threat, and a detailed aircrew brief on threat reaction throughout all phases of an attack by a bogey section. CRM shall be emphasized to include incorporation of the RVD, aircrew lookout doctrine/scan sectors, threat call template and honoring the nearest threat. An event debrief with the aggressor flight lead is recommended.

Performance Standard. The Pilot should demonstrate knowledge of A/A RADAR, A/A gun and IR missile defense, one-circle/two-circle considerations and honoring the nearest threat.

Prerequisite. DT-4410.

Ordnance. 160 chaff, 120 flares.

External Syllabus Support. Two aggressor aircraft and approved airspace. SUAS authorized for expendables.

2.9.5 Air Delivery (AD)

2.9.5.1 Purpose. To attain and maintain the Core Plus Skill of Air Delivery (AD). Upon completion of this phase, the Pilot will be capable of planning and executing MFF AD.

2.9.5.2 Crew Requirements. Shall be instructed by a BIP or NSI (if NS).

2.9.5.3 Academic/Ground Training. Review KC-130 ANTTP Air Delivery chapter and KC-130 Tactical Pocket Guide. Review MAWTS-1 AD courseware and OPNAV 3710.7_ altitude requirements.

AD-4700 2.0 365 B,R,M (N) A/S 1 KC-130

Goal. Train and evaluate the Pilot in personnel high altitude AD procedures.

Requirement. Plan and execute a Military Free Fall (MFF) AD operation. Perform mission analysis and planning of high altitude air delivery of personnel. Perform at least 1 MFF or 1 MFF AD. Review applicable physiology and oxygen requirements for high altitude AD operations. Emphasize crew and jumpmaster coordination. Initial flight shall be conducted in aircraft.

Performance Standard. Correctly identify the zone and safely perform an AD that lands within the drop zone safety criteria.

Prerequisite. 3700

External Syllabus Support. Military free fall unit, appropriate DZ control and flight surgeon/physiologist if applicable.

2.9.6 Battlefield Illumination (BI)

2.9.6.1 Purpose. To attain and maintain the Mission Plus Skill of Battlefield Illumination (BI). Upon completion of this phase, the Pilot will be capable of planning and executing BI.

2.9.6.2 Crew Requirements. Shall be instructed by a BIP.

2.9.6.3 Academic/Ground Training. Utilize academic courseware as outlined in the MAWTS-1 course catalog and review MAWTS-1 ASPs, NFM, and KC-130 ANTTP.

BI-4710	2.0	730	B,R,M	N	A/S	1 KC-130

Goal. Train the Pilot Battlefield Illumination (BI) procedures.

Requirement. Introduce BI procedures. Emphasize flare settings, illumination patterns, the conduct of a 9-Line brief, and emergency procedures. An actual expenditure of ordnance is required. Initial flight shall be conducted in aircraft.

Performance Standard. Demonstrate knowledge of immediate action emergency procedures, and accurately fly the correct pattern for the type of illumination requested.

Prerequisite. AD-3700.

Ordnance. 15 LUU-2A/B, B/B or LUU-19 flares as required.

External Syllabus Support. SUAS authorized for aircraft parachute flares and illumination.

2.10 INSTRUCTOR TRAINING PHASE (5000)

2.10.1 General. The purpose of this phase of training is to train qualified Pilots to instruct various levels of instruction.

2.10.1.1 Pilots shall be recommended for instructor training via Aircrew Performance Review Board (APRB). Upon recommendation, the Pilot shall complete appropriate syllabus requirements. Upon completion of syllabus requirements, the commanding officer shall designate the Pilot as an instructor.

2.10.1.2 Standardization will be emphasized throughout instructor training.

2.10.1.3 Due to the lack of a FRS for the KC-130T community, Core Skill Introduction Instruction may occur at the fleet squadrons in accordance with NAVMC 3500.14C. Fleet Replacement Squadron Instructors (FRSI) shall conduct this training.

2.10.2 Basic Instructor Pilot (BIP)

2.10.2.1 Purpose. To develop qualified Basic Instructor Pilots (BIPs) using a standardized instructor training program. This syllabus is designed to prepare aircraft commanders to instruct specific events. This portion of the syllabus shall be used by VMGR squadrons to assist in instructor standardization.

2.10.2.2 General. A prospective BIP shall be a TPC that the APRB and commanding officer determine has the requisite airmanship and maturity to begin Pilot instruction. The TPC shall be Mission Skill phase complete and have a minimum of 100 TPC hours prior to being recommended by the APRB.

2.10.2.3 The events a BIP may instruct are delineated in the individual event descriptions but are generally limited to day AAR, FORM, and TN (non-LAT events).

2.10.2.4 The commanding officer has the authority to designate an APRB approved BIP to instruct the tactical portion of the Core Skill Introduction Syllabus. The BIP will execute all takeoffs and landings required on these events.

2.10.2.5 The BIP designation requires only 1 event. However, the commanding officer may elect to apply more stringent requirements to attain this designation.

2.10.2.6 BIPs shall be designated in writing by the squadron commanding officer.

2.10.2.7 Crew requirements. Shall be instructed by an ANI or WTI.

2.10.2.8 Academic/Ground Training. The IUT shall review all directives pertinent to the safe conduct of flight to include the OPNAV 3710.7_, Instrument Flight Manual, AIM/FAR, NFM, all tactics publications and local SOPs. The IUT shall be familiar with the T&R Program Manual and this NAVMC.

BIP-5100	3.0	*	B,R	(N)	E	A	1 KC-130

Goal. Basic Instructor Pilot (BIP) evaluation.

Requirement. This event shall be flown in conjunction with a Core Skill or Mission Skill event with the IUT instructing a Pilot under the supervision of a qualified ANI or WTI. The IUT shall conduct the mission brief and execute the syllabus event in accordance with the event description. Upon completion of this event, the Pilot may be designated a BIP by the commanding officer.

Performance Standard. The IUT shall be evaluated on the ability to correctly brief the flight, demonstrate and introduce maneuvers in accordance with applicable directives, correct student deficiencies, conduct proper debrief and display appropriate subject matter expertise.

Prerequisite. RQD-6118, 100 hours TPC time, APRB recommendation.

External Syllabus Support. See appropriate Core Skill or Mission Skill stage description.

2.10.3 NATOPS Instructor/Assistant NATOPS Instructor (NI/ANI)

2.10.3.1 Purpose. Qualify IUT as a NATOPS Instructor/Assistant NATOPS Instructor (NI/ANI).

2.10.3.2 General. The purpose of this stage is to qualify the IUT as a NATOPS Instructor. The NI/ANI primarily conducts annual NATOPS and

Instrument evaluations as well as administering the TPC Upgrade syllabus. The IUT shall be introduced to and practice compound aircraft emergencies from the right and left seat and shall be proficient in 2-engine emergency operations. The IUT shall be instructed on proper check-ride preparation, in-flight supervision of the aircraft and Pilot post-flight administrative requirements. Upon completion of the NI/ANI syllabus, the Pilot shall be designated an ANI or NI by the squadron commanding officer.

2.10.3.3 Crew Requirements. NI-5140 shall be instructed by an ANI, NI, NE, or Model Manager. NI-5141 shall be instructed by the NI, NE, or Model Manager.

2.10.3.4 Academic/Ground Training. The IUT shall be familiar with all applicable OPNAV and NATOPS directives, with an emphasis on instrument and NATOPS normal and emergency procedures.

NI-5140	3.0	*	B	(N)	E	A	1 KC-130

Goal. NI/ANI training.

Requirement. Introduce the IUT to the skills required to correct common student errors from the right seat. Emphasize 3 and 2-engine aircraft approaches and landings, instructional techniques, check-ride preparation, aircraft/Pilot monitoring and post-check administrative duties.

Performance Standards. Demonstrate familiarity with common Pilot errors and instructional techniques. Maintain proper defensive posturing to maintain safe flight. Develop a script for a NATOPS/Instrument checkride sortie including: precision and non-precision instrument approaches, 0%, 50% and 100% flap landings and ground/take-off/in-flight/landing emergencies. The IUT is evaluated on instructional techniques, check-ride preparation, aircraft monitoring and post-check administrative duties.

Prerequisite. BIP-5100, APRB recommended.

NI-5141	3.0	*	B,SC,R	(N)	E	A	1 KC-130

Goal. NI/ANI check.

Requirement. Shall be instructed by a NE/NI with the IUT in the right seat administering a NATOPS evaluation to a Pilot in the left seat. The IUT shall be evaluated on instructional technique, check-ride preparation, aircraft/Pilot monitoring and post-check administrative duties. A minimum of one 2-engine, no flap landing from the right seat shall be demonstrated by the IUT. Upon completion of this event, the IUT may be designated a NI/ANI by the commanding officer.

Performance Standard. Demonstrate familiarity with common Pilot errors and instructional techniques. Maintain proper defensive posturing to maintain safe flight. Develop a script for a NATOPS/Instrument checkride sortie including: precision and non-precision instrument approaches, 0%, 50% and 100% flap landings and ground/take-off/in-flight/landing emergencies. The IUT is evaluated on instructional technique, check-ride preparation, aircraft monitoring and post-check administrative duties.

Prerequisite. NI-5140.

2.10.4 Fleet Replacement Squadron Instructor (FRSI)

2.10.4.1 Purpose. Qualify ANI as a FRSI.

2.10.4.2 General. Upon completion of the FRSI syllabus a Pilot shall be designated an FRSI by the squadron commanding officer.

2.10.4.3 Crew Requirements. FRSI-5145 and FRSI-5146 shall be instructed by a FRSI, NI or NE. FRSI-5147 shall be instructed by the NI or NE.

2.10.4.4 Academic/Ground Training. Review NFM and KC-130 ANTTP.

FRSI-5145 3.0 * B (N) E A 1 KC-130

Goal. FRSI training.

Requirement. Instructor shall discuss instructional techniques, aircraft/Pilot monitoring, defensive posture, and common student errors. IUT in the left seat shall demonstrate the ability to maintain a safe training environment while conducting a simulated FAM-1105 and correcting common student errors as simulated by the instructor in the right seat.

Performance Standard. Demonstrate familiarity with common student errors and instructional techniques. Maintain proper defensive posturing to maintain safe flight. Demonstrate instructional proficiency in steep turns, 1-engine inoperative scenarios, 3-engine go-around procedures, takeoff aborts, and asterisked emergency procedures.

Prerequisite. NI-5141, 1000 hours in T/M/S, and APRB recommendation.

FRSI-5146 3.0 * B (N) E A 1 KC-130

Goal. FRSI training.

Requirement. IUT in left seat shall conduct a Core Skill Introduction aircraft sortie with a student in the right seat that includes engine-out operations. The IUT shall maintain a safe training environment while correcting any student errors.

Performance Standard. Demonstrate competencies established in FRSI-5145.

Prerequisite. FRSI-5145.

FRSI-5147 2.0 * B,SC,R (N) E A 1 KC-130

Goal. FRSI check.

Requirement. IUT in left seat shall conduct a Core Skill Introduction tactical sortie with a student in the right seat. The flight shall be supervised by the NE or NI. Upon completion of this event, the Pilot may be designated a Fleet Replacement Squadron Instructor (FRSI) by the squadron commanding officer.

Performance Standard. Demonstrate competencies established in FRSI-5145.

Prerequisite. FRSI-5146.

2.10.5 Flight Leadership Standardization Evaluator (FLSE)

2.10.5.1 Purpose. Certify IUT as a FLSE.

2.10.5.2 General. FLSEs ensure flight leadership standardization across all squadrons.

2.10.5.3 Re-designation. Refer to MAWTS-1 Course Catalog.

2.10.5.4 Crew requirements. Refer to the MAWTS-1 KC-130 Course Catalog.

2.10.5.5 Academic/Ground Training. Refer to the MAWTS-1 KC-130 Course Catalog.

FLSE-5320	3.0	*	B,SC,R	(NS)	E	A	2+ KC-130

Goal. Certify the IUT to be designated a FLSE. This flight shall be observed by the KC-130 Program Coordinator. MAG Commanding Officers should designate the Pilot a FLSE at the completion of this flight.

Requirement. Refer to the MAWTS-1 KC-130 Course Catalog.

Performance Standard. Refer to MAWTS-1 KC-130 Course Catalog.

Prerequisite. Refer to MAWTS-1 Course Catalog.

External Syllabus Support. Refer to MAWTS-1 Course Catalog.

2.10.6 Night Systems Instructor (NSI)

2.10.6.1 Purpose. To certify a KC-130T Pilot as an instructor capable of safely conducting ground and airborne instruction of the KC-130 Night Systems syllabus.

2.10.6.2 General. Refer to NAVMC 3500.14, MCO 3500.109 and the MAWTS-1 course catalog. The build-up phase may be developed and supervised by the Squadron NSI. Upon certification by MAWTS-1, the NSI shall be designated by the squadron commanding officer.

2.10.6.3 Crew requirements. Refer to the MAWTS-1 KC-130 Course Catalog.

2.10.6.4 Academic/Ground Training. Refer to the MAWTS-1 KC-130 Course Catalog.

NSI-5150	2.0	*	B	NS	E	A	1 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalogue for NSI POI.

NSI-5151	2.0	*	B,SC	NS	E	A	1 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalogue for NSI POI.

NSI-5152	2.0	*	B,SC,R	NS	E	A	1 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalogue for NSI POI.

NSI-5153	2.0	*	B,SC,R	NS	E	A	1 KC-130

Requirement. Reference the MAWTS-1 KC-130 Course Catalogue for NSI POI.

2.10.7 Low Altitude Tactics Instructor (LATI)

2.10.7.1 Purpose. To certify a KC-130T Pilot as an instructor capable of safely conducting ground and airborne instruction of the KC-130 LAT syllabus.

2.10.7.2 General. Completion of the Core Skill and Core Plus LAT syllabus is a prerequisite. Refer to NAVMC 3500.14, MCO 3500.109, and the MAWTS-1 course catalog. The build-up phase may be developed and supervised by the Squadron LATI. Upon certification by the squadron WTI or MAWTS-1, the LATI shall be designated by the squadron commanding officer.

2.10.7.3 Crew requirements. Refer to the MAWTS-1 KC-130 Course Catalog.

2.10.7.4 Ground/Academic Training. Refer to MAWTS-1 KC-130 Course Catalog.

LATI-5210	2.0	*	B	D	E	A	1 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalog for the LATI POI.

LATI-5211 2.0 * B D E A 1 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalog for the LATI POI.

LATI-5212 2.0 * B,SC D E A 2 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalog for the LATI POI.

LATI-5213 2.0 * B,SC,R D E A 1 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalog for the LATI POI.

2.10.8 Defensive Tactics Instructor (DTI)

2.10.8.1 Purpose. To certify the KC-130T Pilot as an instructor capable of safely conducting ground and airborne instruction of the KC-130 DT syllabus.

2.10.8.2 General. Refer to NAVMC 3500.14, MCO 3500.109 and the MAWTS-1 course catalog. Completion of the DT syllabus and be designated a LATI is a prerequisite. The build-up phase may be developed and supervised by the Squadron DTI. Upon certification by MAWTS-1, the DTI shall be designated by the squadron commanding officer.

2.10.8.3 Crew requirements. Refer to the MAWTS-1 KC-130 Course Catalog.

2.10.8.4 Academic/Ground Training. Refer to the MAWTS-1 KC-130 Course Catalog.

DTI-5410 1.0 * B D E A 1 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalogue for DTI POI.

DTI-5411 1.0 * B D E A 1 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalogue for DTI POI.

DTI-5412 1.0 * B,SC D E A 2 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalogue for DTI POI.

DTI-5413 1.0 * B,SC,R D E A 1 KC-130

Requirement. Reference MAWTS-1 KC-130 Course Catalogue for DTI POI.

2.10.9 Weapons and Tactics Instructor (WTI)

2.10.9.1 Purpose. Develop highly qualified Pilots into effective unit tactics instructors and expose them to current Marine Corps tactical doctrine. Additionally, this stage is designed to increase knowledge and experience of the capabilities and associated tasks of the KC-130.

2.10.9.2 General. Tactics and techniques will be taught per the KC-130 ANTTP and the MAWTS-1 supplements. Only MAWTS-1 instructors shall instruct/qualify flights in this stage. Qualification shall only be achieved as shown in the WTI Course Catalog. Upon certification by MAWTS-1, the WTI shall be designated by the squadron commanding officer.

2.10.9.3 Crew requirements. Refer to the MAWTS-1 WTI Course Catalog.

2.10.9.4 Academic/Ground Training. Refer to MAWTS-1 WTI Course Catalog.

WTI-5999 0.0 * B E A KC-130

Requirement. Reference the MAWTS-1 KC-130 Course Catalog.

2.11 REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, and DESIGNATIONS (RCQD) (6000)

2.11.1 General. To provide a vehicle for tracking codes associated with certifications, qualifications and designations. E-coded sorties are evaluation sorties. Once the flight to attain the qualification/designation is complete, a letter from the squadron commanding officer awarding the qualification/designation shall be placed in the NATOPS jacket before that qualification/designation can be utilized.

2.11.2 KC-130T-30 TPC TRACKING CODE

2.11.2.1 Purpose. Introduce the qualified TPC to aircraft landing characteristics of the KC-130T-30.

2.11.2.2 Crew Requirements. Shall be instructed by a current TPC that is qualified in the KC-130T-30.

RQD-6100 2.0 365 B,SC,R D A 1 KC-130T-30

Goal. FAM (Designation).

Requirement. Prior to any TPC signing for a KC-130T-30, that TPC shall complete a familiarization flight with a current TPC who has previously flown the KC-130T-30. This flight shall consist of three (3) landings to include a full-stop. Instruction shall include flight characteristics of the aircraft in the landing configuration.

Performance Standard. Safely taxi the aircraft and discuss taxi characteristics that result with an additional 15 feet of aircraft. Safely land the aircraft in 100% flap configuration.

Prerequisite. TPC Designation.

2.11.3. Functional Check Pilot (FCP)

2.11.3.1 Purpose. Designate the TPC as a FCP.

2.11.3.2 General. FCPs shall be designated by the commanding officer.

2.11.3.3 Crew Requirements. Shall be instructed by a BIP qualified PMCF Pilot.

2.11.3.4 Academic/Ground Training. Functional Check Flight Examination.

FCP-6106 2.0 * B,SC,R D E A/S 1 KC-130

Goal. FCP evaluation/designation.

Requirement. The flight should resemble an "A" profile functional check flight and be instructed by a BIP qualified PMCF Pilot. Initial flight can be conducted in aircraft or simulator.

Performance Standard. Satisfactorily execute procedures per the NFM, OPNAVINST 3710.7_, and OPNNAVINST 4790.2_.

Prerequisite. TPC (6118), APRB recommendation.

2.11.4 KC-130T NATOPS Evaluation POI

2.11.4.1 Purpose. To evaluate the Pilot's knowledge of aircraft systems, performance limitations, emergency procedures, and flight and ground operations.

2.11.4.2 General

NATOPS Instructors shall conduct the NATOPS evaluation in accordance with OPNAVINST 3710.7 series and other applicable directives, instructions, and orders.

The NATOPS Instructor 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 Pilot completed the sortie.

Prior to the oral examination, the NATOPS Instructor shall review the NATOPS monthly emergency procedures examinations and quarterly simulator/cockpit drills for the previous twelve (12) months and previous NATOPS evaluations.

At the discretion of the squadron commanding officer, a letter designating the Pilot as NATOPS qualified shall be placed in the NATOPS jacket.

NATOPS Evaluees shall complete and have a graded open book, closed book, and oral examination prior to the commencement of the actual NATOPS evaluation event.

NTPS-6010 3.0 365 B,SC,R,M E Open Book NATOPS Examination

Goal. The open book examination shall consist of, but not be limited to the question bank. The purpose of the open book examination is to evaluate the Pilot's knowledge of the appropriate publications and the aircraft.

Performance Standard. Achieve a minimum score of 3.5 on the open book examination.

NTPS-6011 1.0 365 B,SC,R,M E Closed Book NATOPS Examination

Goal. The purpose of the closed book examination is to evaluate the Pilot's knowledge of the concerning normal/emergency procedures and aircraft limitations.

Performance Standard. Achieve a minimum score of 3.3 on the closed book examination.

NTPS-6012 3.0 365 B,SC,R,M E Oral NATOPS Examination

Goal. The oral examination shall consist of, but not be limited to the question bank. The instructor may draw upon their experience to propose questions of a direct and positive manner and in no way be opinionated to evaluate the Pilot's knowledge of the concerning normal/emergency procedures, aircraft limitations, and performance.

Performance Standard. Achieve a minimum grade of qualified on the oral examination.

2.11.5 Transport Third Pilot (T3P) Designation

2.11.5.1 Purpose. Designate as a T3P.

2.11.5.2 General. After student Pilots have completed Core Skill Introduction Training and NATOPS check they shall be designated T3P by the squadron commanding officer.

2.11.5.3 Crew Requirements. Shall be instructed by an ANI/NI.

2.11.5.4 Ground Training/Evaluation. Open and closed book NATOPS examinations and the specific requirements for T3P designation per OPNAVINST3710.7_.

NTPS-6110 3.0 365 B,SC,R,M (N) E A 1 KC-130

Goal. Qualify as a Transport Third Pilot (T3P).

Requirement. ANI shall conduct T3P NATOPS evaluation flight. Emphasize right seat copilot duties to include comm/nav management, voice procedures, situational awareness and NATOPS/Instrument procedures. Basic, Transition, Series Conversion, and T3P Refresher Pilots shall be evaluated in the right seat. TPC and T2P Refresher Pilots should be evaluated in the left seat. Pilot should compute TOLD card.

Performance Standard. Per the NFM and OPNAVINST 3710.7_.

Prerequisite. Core Skill Introduction phase complete, NATOPS open, closed and oral exam complete (NTPS-6010, 6011, 6012).

2.11.6 Transport Second Pilot (T2P) Designation

2.11.6.1 Purpose. Designate as a T2P.

2.11.6.2 General. Upon completion of the initial examination and evaluation, this flight will be used as the annual NATOPS evaluation and the Pilot shall be designated T2P by the squadron commanding officer.

2.11.6.3 Crew Requirements. Shall be instructed by an ANI/NI.

2.11.6.4 Ground Training/Evaluation. Open and closed book NATOPS examinations, open book tactics examination and the specific requirements for T2P designation per OPNAVINSTINST 3710.7_. Core Skill Phase complete. The written tactical examination will not be required for subsequent evaluations.

NTPS-6013 1.0 * B,SC E Open Book Tactics Examination

Goal. The purpose of the open book tactics examination is to evaluate the airman's knowledge of the appropriate publications concerning tactics, techniques and procedures of Core and Mission Skills.

Performance Standard. Achieve a minimum grade of 80% on the open book examination.

NTPS-6111 2.0 365 B,SC,R,M (N E A/S 1 KC-130

Goal. Qualify as a Transport Second Pilot (T2P).

Requirement. The T2P check shall be instructed by an ANI and shall be conducted with the Pilot in the right seat. Emphasize right seat copilot duties to include comm/nav management, voice procedures, situational awareness and NATOPS/Instrument procedures. This sortie should be flown in conjunction with a tactical mission. For Pilots who are already designated T2P, this event may be flown in the left seat. Initial flight shall be flown in the aircraft.

Performance Standard. The Pilot shall perform copilot duties per the NFM and KC-130 ANTTP.

Prerequisite. Core Skill phase should be complete, ACPM-82XX Phase complete, NATOPS open, closed and oral exam complete, T2P Tactics exam complete (NTPS-6010, 6011, 6012, 6013), APRB recommendation

2.11.7 Transport Plane Commander (TPC) Designation

2.11.7.1 Purpose. Designate as a TPC.

2.11.7.2 General. The TPC preparation syllabus is designed to prepare the Pilot to command a KC-130 and crew in all aspects of flight. Upon completion of the initial syllabus, NTPS-6118 will be used to track annual NATOPS evaluations and the Pilot shall be designated a TPC by the squadron commanding officer.

2.11.7.3 The TPC preparation simulator syllabus (SNTPS-6112) introduces the Pilot to multiple, compound emergency scenarios and emphasizes landing the aircraft safely under 1 and 2-engine-out situations. It also provides a comprehensive review of crucial aircraft systems and limitations.

2.11.7.4 The Proficiency Review Flights (PRFs) (NTPS-6113 to NTPS-6115) will be flown to screen T2Ps for upgrade. Each flight should be flown with a different ANI/NI.

2.11.7.5 Upon successful completion of the TPC preparation simulator syllabus and PRF syllabus, the TPC shall have met the prerequisites for the TPC Route Check Evaluation (NTPS-6117) and TPC NATOPS Evaluation (RQD-6118).

2.11.7.6 Crew Requirements. Shall be instructed by an ANI/NI.

2.11.7.7 Ground Training/Evaluation. Pilots considered for TPC should be Core Skill and Mission Skill Phase complete, ACPM 83XX Phase complete, currency/flight time per NFM, and the specific requirements for TPC designation per OPNAVINST 3710.7_.

SNTPS-6112 27.0 * B (N) E S OFT/WST

Goal. TPC Upgrade Preparation Simulator Syllabus.

Requirement. This is a tracking code to identify the completion of the TPC Upgrade Preparation Simulator Syllabus. The syllabus includes 9 simulator events. See the TPC Upgrade Preparation Simulator Syllabus Guide for individual event descriptions and requirements.

Performance Standard. Per the NFM.

Prerequisite. APRB recommendation.

NTPS-6113 3.0 * B (N) E A 1 KC-130

Goal. Screen for TPC designation.

Requirement. Review engine start malfunctions, ground, normal and emergency procedures, stall series, GCA and ILS approach procedures, propeller malfunctions and emergency landings in all configurations.

Performance Standard. Per the NFM.

Prerequisite. NTPS-6112.

NTPS-6114 3.0 * B (N) E A 1 KC-130

Goal. Screen for TPC designation.

Requirement. Review ground fires, hydraulic malfunctions,

3-engine circling approaches, no-flap landings, and aircraft limitations. Practice engine start malfunctions, ground normal and emergency procedures, GCA and ILS approach procedures, propeller malfunctions and emergency landings in all configurations. This event should be flown from the right seat.

Performance Standard. Per the NFM.

Prerequisite. NTPS-6113.

NTPS-6115 3.0 * B (N) E A 1 KC-130

Goal. Screen for TPC designation.

Requirement. Review engine and electrical malfunctions, unusual attitude recovery, and partial panel/no gyro approaches. Practice engine start malfunctions, ground, normal and emergency procedures, GCA

and ILS approach procedures, propeller malfunctions and emergency landings in all configurations.

Performance Standard. Per the NFM.

Prerequisite. NTPS-6114.

NTPS-6117 8.0 * B (N) E A 1 KC-130

Goal. TPC NATOPS Route Check evaluation.

Requirement. This event shall be conducted on a long range over water mission requiring the Pilot to review ICAO operations, aircraft cruise and drift-down performance, over water emergency procedures and cargo/passenger coordination. It is recommended the route evaluation be conducted during a multi-day mission to allow evaluation of the Pilot's ground duties and crew handling, to include billeting, aircraft parking and servicing and diplomatic clearance coordination.

Performance Standard. Per the NFM and OPNAVINST 3710.7_.

Prerequisite. NTPS-6115.

NTPS-6118 2.0 365 B,SC,R,M (N) E A/S 1 KC-130

Goal. Complete TPC NATOPS flight evaluation. Conduct an objective evaluation of the Pilot's knowledge of mission planning, 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, not tactical execution. Emphasis shall be placed on the aforementioned items with the addition of local course rules, squadron SOP, and admin flight procedures. The NATOPS evaluation is intended to evaluate compliance with NATOPS procedures. The NATOPS evaluation is the means to measure the Pilot'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. A Pilot's initial TPC NATOPS check shall be flown in the aircraft.

Requirement. Conduct NTPS-6118 evaluation flight. Upon successful completion of this event, the instructor shall log the appropriate training code for tracking purposes. Demonstrate comprehensive knowledge and understanding of NATOPS, squadron SOP, and local course rules.

Performance Standard. Executes flight and ground operations safely IAW OPNAV 3710.7 Series, and KC-130T NATOPS. Complies with squadron SOP and local course rules.

Prerequisite. Core Skill and Mission Skill Phase should be complete, ACPM 83XX Phase complete, NATOPS open, closed and oral exam complete (NTPS-6010, 6011, 6012), and SNTPS-6112, NTPS-6113, NTPS-6114, NTPS-6115, NTPS-6117, APRB recommendation.

2.11.8 Emergency Procedure Training

2.11.8.1 Purpose. Maintain quarterly emergency procedure training.

2.11.8.2 General. Emergency procedure training consists of a monthly EP exam and a quarterly EP simulator. In the event the simulator is unavailable, the EP review may be conducted in the cockpit either pre or post flight as a static event.

2.11.8.3 Crew Requirements. Emergency Procedure review events may be instructed by a Current TPC, or CSI.

NTPS-6120 1.0 90 B,SC,R,M (N) E S/A 1 OFT/WST/KC-130

Goal. Emergency Procedure Review.

Requirement. This flight will review KC-130T emergency procedures and fulfills the requirement of quarterly EP simulator training per NAVMC 3500.14.

Performance Standard. Comply with KC-130T NFM Emergency Procedures.

2.11.9 NATOPS Instrument Evaluation POI

2.11.9.1 Purpose. Evaluate the Pilot's knowledge and application of NATOPS instrument procedures and techniques.

2.11.9.2 General. General policy, requirements, and prerequisites concerning NATOPS instrument evaluations are contained in OPNAVINST 3710.7, NFM, and the NIFM.

2.11.9.3 Crew Requirements. Shall be instructed by an ANI/NI.

2.11.9.4 Ground Training/Evaluation. Ground training and evaluation shall be conducted per OPNAVINST 3710.7, NFM, and NIFM.

INST-6030 8.0 365 B,SC,R,M E Instrument Ground School

Goal. The Instrument Ground School shall be an approved Commander Naval Air Forces (CNAF) approved syllabus and at a minimum cover the following topics:

Spatial disorientation.

CNO GPS Policy Statement and GPS fundamentals to include RNAV (GPS) and Required Navigation Performance (RNP).

Reduced Vertical Separation Minimums (RVSM) procedures.

Requirements and denial reports.

Use of non-DoD instrument approach/departure reports, and use of non-DoD GPS NOTAMS systems (Jeppeson GPS NOTAMS and Databases).

Performance Standard. Achieve a minimum grade of qualified for Instrument Ground School which also encompasses the open book examination.

INST-6031 3.0 365 B,SC,R,M E Oral NATOPS Instrument Examination

Goal. The oral NATOPS instrument examination shall consist of, but not be limited to the question bank in addition to any subject listed for coverage in OPNAVINST 3710.7 series. The examination shall include questions on the following topics:

Pertinent Navy or Marine Corps regulations, orders, and instructions.

Pertinent parts of the Federal Aviation Regulations (FAR), other regulations, and/or aeronautical publications which are applicable.

Interpretation of weather information normally used in flight planning. The instructor may draw upon their experience to propose questions of a direct and positive manner and in no way be opinionated to evaluate the airman's knowledge of the NATOPS, NATOPS Instrument Flight Manual, FAR/AIM and/or aeronautical publications which are applicable, normal/emergency instrument ground and flight procedures, weather, aircraft limitations, and performance.

Performance Standard. Achieve a minimum grade of qualified on the oral NATOPS instrument examination.

INST-6130 2.0 365 B,SC,R,M (N) E A/S 1 KC-130

Goal. Complete standard instrument flight evaluation. Following completion of the ground evaluation events, a standard instrument flight/simulator evaluation event shall be flown and completed with a grade of "Qualified." Conduct an objective evaluation of the airman's knowledge of flight planning, filing, briefing, conduct of flight under normal operating conditions, emergency procedures, closing out flight plans, and debriefing.

Requirement. Conduct INST-6130, and designate Pilot per OPNAVINST 3710.7_, NFM, and the NIFM. Upon successful completion of these events, the evaluator shall log the appropriate training code for tracking purposes.

Performance Standard. Executes flight and 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.

Prerequisite. INST-6030, INST-6031, and minimum experience per OPNAVINST 3710.7.

INST-6131 2.0 365 B,SC,R,M (N) E A/S 1 KC-130

Goal. Complete special instrument flight evaluation. Following completion of the ground evaluation events, a special instrument flight/simulator evaluation event shall be flown and completed with a grade of "Qualified." Conduct an objective evaluation of the airman's knowledge of flight planning, filing, briefing, conduct of flight under normal operating conditions, emergency procedures, closing out flight plans, and debriefing.

Requirement. Conduct INST-6131, and designate Pilot per OPNAVINST 3710.7_, NFM, and the NIFM. Upon successful completion of these events, the evaluator shall log the appropriate training code for tracking purposes.

Performance Standards. Executes flight and 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.

Prerequisite. INST-6030, INST-6031, INST-6130, and minimum experience per OPNAVINST 3710.7_.

2.11.10 Section Leader (SL) Designation

2.11.10.1 Purpose. Prepare and certify the Pilot as a Section Leader (SL).

2.11.10.2 General. The Pilot shall review section formations, multi-plane AAR formations, planned and inadvertent weather penetrations and section recovery techniques. One flight should be flown at night under NVD conditions. Upon completion of the evaluation flight, Pilots shall also log the proficiency code in order to track event proficiency. It is recommended that the Tactical RAC Qualification (RAC-6311) be conducted in conjunction with either SL-6300 or SL-6301.

2.11.10.3 Crew Requirements. Shall be instructed by a section or division lead and certified by a FLSE.

2.11.10.4 Academic Training. All requirements delineated in the matrix below shall be completed and tracked prior to the SL evaluation/certification event.

SECTION LEADER (SL) MATRIX

SELF PACED READINGS		DATE COMP
NATOPS FLIGHT MANUAL CH 14.2		
OPNAVINST 3710.7 CH 5.1.12 Formation Flying		
ANTTP 3-22.3-KC-130 CH 2.3.6 FWAAR Formation		
ANTTP 3-22.3-KC-130 CH 2.4.8 HAAR Formation		
ANTTP 3-22.3-KC-130 CH 4 Formation		
ANTTP 3-22.3-KC-130 CH 5.2.7 Formation Air Delivery		
ATP-56B Part 1 Para 406 Loss of Visual Contact		
ATP-56B Part 2 CH 2 Formation Procedures		
ATP-56B Part 3 CH 3 Formation HAAR Procedures		
ATP-56B Part 3 CH 4 Safety Procedures		
BRIEFING/CHALK TALK REQUIREMENTS	DATE COMP	INSTRUCTOR
Section Departures		
Section Formations		
Low-Altitude Formation		
Multi-Plane AAR Formations		
Planned Weather Penetration		
Inadvertent Weather Penetration		
Section Recoveries (Approaches/Overhead)		
NORDO Procedures		
SL Brief		
Section Debrief		
ADMINSTRATIVE FLIGHT REQUIREMENTS		
Formation Start, Taxi, Run-Up		
Section Takeoff		
Section Rendezvous		
Cruise/Parade Positions		
Under-run		
Cross-under		
Section Recovery		
TN/AD/AAR *		
Night Aided **		

* One event shall be flown in conjunction with a tactical mission.
** One event should be flown at night.

SL-6300 3.0 * B (NS) E A 2 KC-130

Goal. Section Leader practice.

Requirement. This event shall be instructed by a designated SL. This event should be flown as part of tactical mission (AAR preferred). The SL UT shall conduct the formation leader brief, review formation start, taxi, run-up, takeoff, and recovery procedures under day and NVD conditions. Discuss flight leadership responsibilities, formation instructional techniques and common student error recognition and correction. Review proper management of all comm/nav equipment associated with formation flight and proper formation communications procedures.

Performance Standard

The SL UT shall successfully plan, brief and lead a section of KC-130s.

The SL UT shall successfully conduct a mission brief and debrief IAW the ANTTP KC-130 Tactical Pocket Guide.

The SL UT shall successfully demonstrate thorough knowledge of the self-paced reading in the SL Matrix.

The SL UT shall successfully complete the maneuvers and procedures per the NFM, KC-130 ANTTP, and OPNAVINST 3710.7_.

Prerequisite. 100 flight hours as a TPC, two flights in wingman position as a designated TPC, SL academics complete, ACPM-8630, ACPM-8660, and APRB recommendation.

External Syllabus Support Requirements. Appropriate SUAS scheduled.

SL-6301	3.0	*	B,SC,R	(NS)	E	A	2 KC-130

Goal. SL evaluation/certification.

Requirement. This event shall be evaluated by a designated FLSE. If SL-6300 did not include a tactical mission, then SL-6301 shall be flown in conjunction with a tactical mission. The SL UT shall conduct the formation leader brief, review formation start, taxi, run-up, takeoff, and recovery procedures under day and NVD conditions. Discuss flight leadership responsibilities, formation instructional techniques and common student error recognition and correction. Review proper management of all avionics equipment associated with formation flight and proper formation communications procedures. Upon completion, the Pilot may be designated a SL by the squadron commanding officer.

Performance Standard

The SL UT shall successfully plan, brief and lead a section of KC-130s.

The SL UT shall successfully conduct a mission brief and debrief IAW the ANTTP KC-130 Tactical Pocket Guide.

The SL UT shall successfully demonstrate thorough knowledge of the self-paced reading in the SL Matrix.

The SL UT shall successfully complete the maneuvers and procedures per the NATOPS FLIGHT MANUAL, KC-130 ANTTP, and OPNAVINST 3710.7_.

Prerequisite. SL-6300.

External Syllabus Support Requirements. Appropriate SUAS scheduled.

SL-6302	2.0	365	B,SC,R,M	(NS)		A	2 KC-130

Goal. SL proficiency.

Requirement. To maintain SL proficiency a Pilot shall brief, lead, and debrief (or evaluate a prospective SL) the designated event in accordance with the mission performance standards for that event.

Prerequisite. SL-6301.

2.11.11 Division Leader (DL) Designation

2.11.11.1 Purpose. Prepare and certify the Pilot for Division Leader (DL).

2.11.11.2 General. During the workup stage for DL, 1 flight should be a multi-plane AAR evolution and one flight should be flown at night under NVD conditions in order to develop the prospective DL's flight leadership. The Pilot shall review multi-plane AAR formations, planned and inadvertent weather penetrations and division recovery techniques. DL-6303 shall be evaluated by a designated DL. DL-6304 shall be evaluated by a FLSE. The DL Matrix will be used to track academic and administrative training. Upon completion of the evaluation flight Pilots shall also log the proficiency code in order to track event proficiency. Upon certification, the DL shall be designated by the squadron commanding officer.

2.11.11.3 Crew Requirements. Shall be instructed by a division lead and certified by a FLSE.

2.11.11.4 Academic Training. All requirements delineated in the DL matrix shall be completed prior to the DL evaluation/certification event.

DIVISION LEADER MATRIX

SELF PACED READINGS		DATE COMP
NATOPS FLIGHT MANUAL CH 14.2		
OPNAVINST 3710.7 CH 5.1.12 Formation Flying		
ANTTP 3-22.3-KC-130 CH 2.3.6 FWAAR Formation		
ANTTP 3-22.3-KC-130 CH 2.4.8 HAAR Formation		
ANTTP 3-22.3-KC-130 CH 4 Formation		
ANTTP 3-22.3-KC-130 CH 5.2.7 Formation Air Delivery		
ATP-56B Part 1 Para 406 Loss of Visual Contact		
ATP-56B Part 2 CH 2 Formation Procedures		
ATP-56B Part 3 CH 3 Formation HAAR Procedures		
ATP-56B Part 3 CH 4 Safety Procedures		
BRIEFING/CHALK TALK REQUIREMENTS	DATE COMP	INSTRUCTOR
Formation Departures		
Division Formations		
Low-Altitude Formations		
Multi-Plane AAR Formations		
Planned Weather Penetration		
Inadvertent Weather Penetration		
Division Recoveries (Approaches/Overhead)		
NORDO Procedures		
Division Leader Brief		
Division Debrief		
ADMINISTRATIVE FLIGHT REQUIREMENTS		
Formation Start, Taxi, Run-Up		
Division Takeoff		
Division Rendezvous		
Cruise/Parade Positions		
Underrun		
Crossunder		
Division Recovery		
TN/AD/AAR *		
Night Aided **		

* One event should be flown in conjunction with a multi-plane AAR mission.
** One event should be flown at night.

DL-6303 3.0 * B (NS) E A 3+ KC-130

Goal. Division Leader practice.

Requirement. This event shall be instructed by a designated DL. This event should be flown as part of a multi-plane AAR mission. The DL UT shall conduct the formation leader brief, review formation start, taxi, run-up, takeoff, and recovery procedures under day, night and NVD conditions. Review proper management of all comm/nav equipment associated with formation flight and proper formation communications procedures.

Performance Standard

The DL UT shall plan, brief, and lead a Division of KC-130s.

The DL UT shall conduct a mission brief and debrief IAW the ANTTP KC-130 Tactical Pocket Guide.

The DL UT shall demonstrate thorough knowledge of the self-paced reading in the DL Matrix.

The DL UT shall satisfactory complete the maneuvers and procedures per the NFM, KC-130 ANTTP, and OPNAVINST 3710.7_.

Prerequisite. Minimum of two flights as a designated SL, 200 flight hours as a TPC, DL academics complete, ACPM-8640, ACPM-8641, ACPM-8620, and APRB recommendation.

External Syllabus Support Requirements. Appropriate SUAS scheduled.

DL-6304	3.0	*	B,SC,R	(NS)	E	A	3+ KC-130

Goal. DL evaluation/certification.

Requirement. This event shall be evaluated by a designated FLSE. If DL-6303 did not include a multi-plane AAR mission, then DL-6304 shall be flown in conjunction with a multi-plane AAR mission. The DL UT shall conduct the formation leader brief, review formation start, taxi, run-up, takeoff, and recovery procedures under day, night, and NVD conditions. Review proper management of all comm/nav equipment associated with formation flight and proper formation communications procedures. Upon completion of this event, the Pilot may be designated a DL by the squadron commanding officer.

Prerequisite. DL-6303.

Performance Standard

The DL UT shall plan, brief, and lead a Division of KC-130s.

The DL UT shall conduct a mission brief and debrief IAW the ANTTP KC-130 Tactical Pocket Guide.

The DL UT shall demonstrate thorough knowledge of the self paced reading in the DL Matrix.

The DL UT shall satisfactory complete the maneuvers and procedures per the NFM, KC-130 ANTTP, and OPNAVINST 3710.7_.

External Syllabus Support Requirements. Appropriate SUAS scheduled.

DL-6305	2.0	365	B,SC,R,M	(N)		A	3+ KC-130

Goal. DL proficiency.

Requirement. To maintain DL proficiency, a Pilot shall brief, lead, and debrief (or evaluate a prospective DL) the designated event in accordance with the mission performance standards for that event.

Prerequisite. DL-6304.

2.11.12 Tactical Refueling Area Commander (TACRAC) Designation

2.11.12.1 Purpose. To attain and maintain the TACRAC skill for multi-plane, static orbit, air-to-air refueling operations. Upon completion of this phase, the Pilot will be capable of assuming the responsibilities of a Tactical Refueling Area Commander during a FW/TR/Helicopter AAR operation during day or night.

2.11.12.2 General. A designated TACRAC shall be capable of commanding a KC-130 refueling cell on a static-orbit tanker track to include fuel management and control of receivers in and around the tanker cell. The RAC-6311 evaluator shall be a designated a TACRAC and FLSE. Upon completion of the evaluation flight, Pilots shall also log the proficiency code in order to track event proficiency. At the discretion of the squadron commanding officer, a letter designating the Pilot as TACRAC shall be placed in the NATOPS jacket. This designation should be completed during the Pilot's SL training.

2.11.12.3 Crew Requirements. Shall be instructed and certified by a FLSE/TACRAC.

2.11.12.4 Academic Training. All requirements delineated in the TACRAC Matrix shall be completed and tracked prior to the TACRAC evaluation/certification event.

TACRAC MATRIX

SELF-PACED READINGS		DATE COMP
NATOPS FLIGHT MANUAL CH 14.1 IFR System		
NATOPS FLIGHT MANUAL CH 14.2 Formation Flight		
OPNAVINST 3710.7 CH 5.1.12 Formation Flying		
ANTTP 3-22.3-KC-130 CH 2.3.6 FWAAR Formation		
ANTTP 3-22.3-KC-130 CH 2.4.8 HAAR Formation		
ANTTP 3-22.3-KC-130 CH 4 Formation		
ATP-56B Part 1 Para 406 Loss of Visual Contact		
ATP-56B Part 2 CH 2 Formation Procedures		
ATP-56B Part 3 CH 3 Formation HAAR Procedures		
ATP-56B Part 4 CH 4 Safety Procedures		
BRIEFING/CHALK TALK REQUIREMENTS	DATE COMP	INSTRUCTOR
Air Refueling Limitations		
Multi-Plane AAR Formations		
Rendezvous Procedures		
Weather Considerations		
Planned Weather Penetration		
Inadvertent Weather Penetration		
Receiver Fuel Management		
NORDO Procedures		
Refueling Area Commander Brief		
Tanker Mgmt: TNKR Aborts		
Emergency Air Refueling Procedures		
ADMINISTRATIVE FLIGHT REQUIREMENTS	DATE COMP	INSTRUCTOR
OPARS		
ALTRV Procedures		
Rendezvous		
Refueling Formation Positions		
Radio Management/Voice Procedures		

TACRAC-6311 3.0 * B,SC,R (NS) E A 2+ KC-130

Goal. TACRAC evaluation/certification.

Requirement. This event shall be evaluated by a designated FLSE/TACRAC. Brief, conduct, and control a multi-tanker AAR mission. Discuss responsibilities of Flight Leader and Refueling Area Commander on a static orbit track. Focus should be on refueling formation integrity, receiver management, and fuel management for the entire flight.

Performance Standard

The TACRAC under instruction shall successfully plan and brief the tanker and receiver force on all applicable procedures of the entire AAR evolution.

The TACRAC under instruction shall successfully conduct a mission brief and debrief IAW the ANTTP KC-130 Tactical Pocket Guide.

The TACRAC under instruction shall successfully demonstrate thorough knowledge of the self-paced reading in the TACRAC Matrix.

The TACRAC under instruction shall successfully complete the maneuvers and procedures per the NFM, KC-130 ANTTP, ATP-56(B) and OPNAVINST 3710.7_.

Prerequisite. Designated SL (SL-6301), TACRAC academics complete, (can be conducted in conjunction with SL-6300 or SL-6301).

External Syllabus Support. Receiver aircraft. Appropriate SUAS scheduled.

TACRAC-6312 2.0 365 B,SC,R,M (NS) A 2+ KC-130

Goal. TACRAC proficiency.

Requirement. To maintain proficiency as a TACRAC, a Pilot shall brief, lead, and debrief the designated event in accordance with the mission performance standards for that event.

Prerequisite. RAC-6311

2.11.13 Strategic Refueling Area Commander (STRATRAC) Designation

2.11.13.1 Purpose. To attain and maintain the long range formation air-to-air refueling skill. Upon completion of this phase, the Pilot will be capable of planning and executing long range over-water (multiple tanker) FW/TR/Helicopter AAR during day or night.

2.11.13.2 General. This designation qualifies the Pilot to act as RAC for extended over-water tanker missions. A detailed knowledge of both tanker and receiver fuel management, ALTRV scheduling facilities outlined in ATP-56(B), long-range navigation techniques, flight lead/rendezvous controller responsibilities and international flight operations is required. The RAC-6314 evaluator shall be a designated FLSE/STRATRAC. Commanders should select only the most skilled and experienced aircraft commanders for this designation. Upon completion of the evaluation flight Pilots shall also log the proficiency code in order to track event proficiency. At the discretion of the squadron commanding officer, a letter designating the Pilot as STRATRAC shall be placed in the NATOPS jacket.

2.11.13.3 Crew Requirements. Shall be instructed and certified by a

FLSE/STRATRAC.

2.11.13.4 Academic Training. All requirements delineated in the STRATRAC Matrix shall be completed prior to the STRATRAC evaluation/certification event.

STRATRAC MATRIX

SELF PACED READINGS		DATE COMP
NATOPS FLIGHT MANUAL CH 14.1 IFR System		
NATOPS FLIGHT MANUAL CH 14.2 Formation Flight		
OPNAVINST 3710.7 CH 5.1.12 Formation Flying		
ANTTP 3-22.3-KC-130 CH 2 Air-to-Air Refueling		
ANTTP 3-22.3-KC-130 CH 4 Formation		
ATP-56B Part 1 General Procedures		
ATP-56B Part 2 CH 2 Formation Procedures		
ATP-56B Part 3 CH 3 Formation HAAR Procedures		
Squadron Tactical Systems Operators SOP		
BRIEFING/CHALK TALK REQUIREMENTS	DATE COMP	INSTRUCTOR
Air Refueling Limitations		
Weather Considerations		
Tanker/Receiver Performance Data		
Multi-Plane AAR Formations		
Tanker/Receiver Fuel Management		
Control/Management of Receivers/Tankers		
Rendezvous Procedures		
Planned Weather Penetration		
Inadvertent Weather Penetration		
Contingency Planning		
Receiver to Hose Ratio		
Abort/Bingo Criteria		
Divert Planning		
NORDO Procedures		
Flight Lead/RAC/Rendezvous Controller Responsibilities		
Refueling Area Commander Brief		
Night Aided/Unaided		
Emergency Air Refueling Procedures		
ADMINISTRATIVE FLIGHT REQUIREMENTS	DATE COMP	INSTRUCTOR
OPARS		
ALTRV Procedures		
Rendezvous		
Radio Management/Voice Procedures		
International Flight Operations		

STRATRAC-6314 6.0 * B,SC,R (NS) E A 2+ KC-130

Goal. STRATRAC evaluation/certification.

Requirement. This event shall be evaluated by a designated FLSE/STRATRAC. Brief, conduct, and control a multi-tanker extended AAR mission. Discuss responsibilities of Refueling Area Commander, Flight Leader, and Rendezvous Controller. Explain movement control, ALTRVs, abort criteria, hose factor, contingency planning, RAC functions, rendezvous control, weather recce, and path finding. Review radio procedures, NAVAID/RADAR/TCAS procedures, tanker/receiver management and emergency procedures related to AAR.

Performance Standards

Coordinate overall movement control planning effort to include: ORM analysis, ALTRV scheduling facilities/ALTRV requirements, route, tanker plan, logistics and divert contingencies.

Prepare and distribute flight planning products to all applicable tanker/receiver force participants; include: tanker plan, flight/route planning data and IMC penetration plan.

Conduct a formal movement briefing for all tanker and receiver force participants; include: route, go/no go criteria, tanker and receiver force rendezvous, refueling area, tanker plan, abort/bingo/ETP locations and criteria, communication, IMC penetration plan, bump plan, divert/contingencies, and logistics.

Rendezvous tanker force with receiver force as planned/briefed with due consideration given to changes in forecast weather, fuel planning and safety.

Ensure that all fuel transfer is in progress no later than planned/briefed abort points; otherwise direct receiver(s) to divert as applicable.

Ensure all AAR is conducted within appropriate airspace.

Perform all radio communications between tanker force and receiver force during refueling evolution(s).

Manage fuel offload of tanker aircraft according to mission planning, brief, economy and bingo considerations.

Manage receiver fueling according to mission planning, brief and divert considerations. Ensure receivers have adequate fuel to arrive at destination with required fuel reserve.

Direct planned/inadvertent weather penetration procedures if required for inclement weather.

Prerequisite. Designated DL (6304) and TACRAC (6311), STRATRAC academics complete, APRB recommendation.

External Syllabus Support. Appropriate ALTRV coordinated with ALTRV scheduling facilities and FW/TR/Helicopter receiver force.

STRATRAC-6315 3.0 730 B,SC,R,M (NS) A 2+ KC-130

Goal. STRATRAC proficiency.

Requirement. To maintain proficiency as a STRATRAC a Pilot shall brief, lead, and debrief the designated event in accordance with the mission performance standards.

Prerequisite. RAC-6314

2.12 AVIATION CAREER PROGRESSION MODEL (ACPM)

2.12.1 Purpose. To enhance professional understanding of Marine Aviation and the MAGTF and to ensure aviators possess the requisite skills to fill battle command and battle staff positions in support of the ACE and the MAGTF in a joint environment. ACPM academic training requirements will be tracked and managed in M-SHARP. Commanding officers shall ensure the requisite ACPM training requirements have been met prior to designating flight leaders.

2.12.2 ACPM Core Skill Training Events

2.12.2.1 Purpose. To provide and introduce basic integration of the ACE within the MAGTF and ACE Battle Staff planning.

KC-130T PILOT					
8000 AVIATION CAREER PROGRESSION MODEL PHASE					
STAGE	TRNG CODE	EVENT DESC	ACAD HOURS	PREREQ	POI
ACPM CORE SKILL					
ACPM	8200	CONTROL OF AIRCRAFT AND MISSILES	0.6	-	ALL
ACPM	8201	MWCS BRIEF	0.4	-	ALL
ACPM	8202	ACA AND AIRSPACE	0.5	-	ALL
ACPM	8210	AVIATION GROUND SUPPORT	0.6	-	ALL
ACPM	8230	ACE BATTLE STAFF	0.6	-	ALL
ACPM	8231	BATTLE COMMAND DISPLAY	0.3	-	ALL
ACPM	8240	SIX FUNCTIONS INTEGRATION	1.3	-	ALL
ACPM	8241	ASR/JTAR INTRODUCTION AND PRACTICAL APPLICATION	0.5	-	ALL
ACPM	8242	AVIATION SITE COMMAND	0.7	-	ALL
ACPM	8250	THEATER AIR GROUND SYSTEM (TAGS)	0.6	-	ALL
ACPM CORE SKILL Total			6.1		
ACPM MISSION SKILL					
ACPM	8300	AIR DEFENSE	0.6	-	ALL
ACPM	8310	FORWARD ARMING REFUELING POINT (FARP) OPERATIONS	0.4	-	ALL
ACPM	8311	MARINE CORPS TACTICAL FUEL SYSTEMS	0.2	-	ALL
ACPM	8320	JOINT STRUCTURE AND JOINT AIR OPERATIONS	1.3	-	ALL
ACPM	8321-8326	JOINT AIR PLANNING & JOINT OPERATIONS	1.3	8320	ALL
ACPM	8340	INTEGRATING FIRES & AIRSPACE WITHIN MAGTF	0.5	-	ALL
ACPM	8350	PHASING CONTROL ASHORE	0.5	-	ALL
ACPM	8351	TACRON ORGANIZATIONS & FUNCTIONS	1	-	ALL
ACPM MISSION SKILL Total			5.8		
ACPM FLIGHT LEADERSHIP					
SECTION LEADER					
ACPM	8630	TACTICAL AIR COMMAND CENTER (TACC)	0.7	-	ALL
ACPM	8660	JOINT OPS INTRO	0.5	-	ALL
SECTION LEADER Total			1.2		
DIVISION LEADER					
ACPM	8640	JOINT DATA NETWORK	0.4	-	ALL
ACPM	8641	MAGTF THEATER AND NATIONAL ISR EMPLOYMENT	1.5	-	ALL
ACPM	8620	ESG / CSG INTEGRATION	TBD	-	ALL
DIVISION LEADER Total			1.9		
ACPM Total			15.0		

2.13 SYLLABUS MATRICES

2.13.1 General. The following matrices are provided in accordance with NAVMC 3500.14.

2.13.2 T&R Chaining. Event chaining allows for the completion of more complex and/or advanced events using the same skills to update proficiency status of events. Only events in a sequence entailing demonstration of equivalent skills shall be chained.

When a T&R event is logged, the proficiency dates of other T&R events (usually lower in number) may be updated. The T&R code that is logged is known as the "chaining code," and the updated codes are "chained codes." Chained codes are not always updated when a chaining code is logged.

2.13.2.1 Conditional Chaining. The following environmental conditions further specify which T&R codes are chain-updated.

Night Optional. Chained codes annotated with parentheses around them, e.g. (2000), are only chain-updated if the chaining code is flown at night.

Night Systems Optional. Chained codes annotated with parentheses and NS after them, e.g. (2000 NS), are only chain-updated if the chaining code is flown using night systems.

Light Level Optional. Chained codes annotated with parentheses and HLL after them, e.g. (2000 HLL), are only chain-updated if the chaining code is flown using night systems during a high light level period. Chained codes annotated with parentheses and LLL after them, e.g. (2000 LLL), are only chain-updated if the chaining code is flown using night systems during a low light level period.

2.13.3 Syllabus Event Conversion. The syllabus event conversion information is used to convert T&R syllabus event proficiency status of the previous T&R syllabus into event proficiency status of the current T&R for individuals.

2.13.4 Pilot T&R Syllabus Matrix

KC-130T PILOT											
1000 CORE SKILL INTRODUCTION PHASE											
STAGE	TRNG CODE	EVENT DESC	FLIGHT HOURS	SIM HOURS	REFLY	DEVICE	# OF A/C	COND	POI	EVAL	EVENT CONV
FAMILIARIZATION (FAM)											
SFAM	1001	SIM-EXPANDED CHECKLIST TO AND INCL T/O		2.0	*	S		D	B,SC	E	1001
SFAM	1002	SIM-EXPANDED CHECKLIST T/O TO SECURE		2.0	*	S		D	B,SC	E	1002
SFAM	1003	SIM-START MALFUNCTIONS		2.0	*	S		D	B,SC	E	1003
SFAM	1004	SIM-GROUND EMERGENCIES		2.0	*	S		D	B,SC	E	1004
SFAM	1005	SIM-STAGE REVIEW; CHECKLISTS,EPs		2.0	*	S		D	B,SC,R	E	1005
SFAM	1006	SIM-PROPELLER MALFUNCTIONS		4.0	*	S		D	B,SC	E	1006
SFAM	1007	SIM-STEEP TURNS, STALLS		4.0	*	S		D	B,SC	E	1007
SFAM	1008	SIM-GCA APP, ELECTRICAL SYSTEMS		4.0	*	S		D	B	E	1008
SFAM	1009	SIM-PRECISION APP, BLEED AIR SYSTEMS		4.0	*	S		D	B	E	1009
SFAM	1010	SIM-NONPRECISION APP, FUEL SYSTEMS		4.0	*	S		D	B	E	1010
SFAM	1011	SIM-HIGH APP, PENETRATION, HYDRAULICS		4.0	*	S		D	B	E	1011
SFAM	1012	SIM-ENGINE OUT APPROACHES		4.0	*	S		D	B,SC,R	E	1012
SFAM	1013	SIM-TWO ENGINE APPROACH, PART PANEL		4.0	*	S		D	B,SC,R	E	1013
SFAM	1014	SIM-STAGE REVIEW; BOLD FACE EPs		2.0	*	S		D	B,SC,R	E	1014
FAM	1100	VFR PATTERN, STEEP TURNS, STALLS	3.0		*	A	1	D	B	E	1100
FAM	1101	INSTRUMENT FLIGHT PROCEDURES, OIL SYS	3.0		*	A	1	D	B,SC,R	E	1101
FAM	1102	PRECISION APPROACHES, BLEED AIR SYS	3.0		*	A	1	N*	B	E	1102
FAM	1103	NON-PRECISION APPROACHES, HYDRAULICS	3.0		*	A	1	(N*)	B,SC,R	E	1103
FAM	1104	HOLDING, CIRCLING APPROACHES	3.0		*	A	1	D	B	E	1104
FAM	1105	ENGINE OUT OPS, PREC APP, PROPS	3.0		*	A	1	N*	B,SC,R	E	1105
FAM	1106	ENGINE OUT OPS, NON-PREC APP, ELEC	3.0		*	A	1	D	B	E	1106
FAM	1107	IN FLIGHT EPs, DEMONSTRATE 2-ENGINE	3.0		*	A	1	D	B,SC,R	E	1107
FAM	1108	PARTIAL PANEL, NO GYRO APPROACHES	3.0		*	A	1	N*	B	E	1108
FAM	1109	STAGE REVIEW	3.0		*	A	1	(N*)	B,SC,R	E	1109
Total FAM			30.0	44.0							
LONG RANGE NAVIGATION (LRN)											
LRN	1160	LONG RANGE NAVIGATION PROCEDURES	16.0		*	A	1	(N*)	B	E	1160
Total LRN			16.0								
TACTICAL NAVIGATION (TN)											
TN	1200	TACTICAL NAVIGATION PROCEDURES	2.0		*	A	1	D	B	E	1200
Total TN			2.0								
FORMATION (FORM)											
FORM	1300	BASIC FORMATION	2.0		*	A	2	D	B	E	1300
Total FORM			2.0								
AIR-TO-AIR REFUELING (AAR)											
AAR	1600	FWAAR PROCEDURES	3.0		*	A	1	(N*)	B	E	1600
AAR	1601	HAAR PROCEDURES	3.0		*	A	1	D	B	E	1601
Total AAR			6.0								
TOTAL 1000 PHASE			56.0	44.0							

KC-130T PILOT T&R MATRIX													
STAGE	TRNG CODE	T&R DESCRIPTION	# FLIGHTS	FLT TIME	# SIMS	SIM TIME	REFLY	DEVICE	# A/C	COND	POI	EVAL	EVENT CONV
CORE SKILL (2000 Phase)													
FAMILIARIZATION (FAM)													
FAM	2100	LS FAM		2.0			*	A/S	1	(N)	B,SC,R,M		
FAM Total			1	2.0	0	0.0							
NIGHT SYSTEMS (NS)													
NS	2150	HLL NSFAM		2.0			365	A/S	1	NS	B,SC,R		2150
NS	2151	LLL NSFAM		2.0			180	A/S	1	NS	B,SC,R,M		2151
NS Total			2	4.0	0	0.0							
LONG RANGE NAVIGATION (LRN)													
LRN	2160	LRNAV		8.0			365	A/S	1	(N)	B,R,M		2160
LRN Total			1	8.0	0	0.0							
TACTICAL NAVIGATION (TN)													
TN	2200	TACNAV		2.0			365	A/S	1	D	B,R		2200
TN	2250	HLL NSLL		2.0			365	A/S	1	NS	B,R		2250
TN	2251	LLL NSLL		2.0			180	A/S	1	NS	B,SC,R,M		2251
TN Total			3	6.0	0	0.0							
LOW ALTITUDE TACTICS (LAT)													
LAT	2260	LAT		2.0			180	A/S	1	D	B,R		2260
LAT	2261	LAT		2.0			180	A	1	D	B,SC,R,M		2261
LAT Total			2	4.0	0	0.0							
SECTION FORMATION (SEC FORM)													
FORM	2300	SECTION FORM		2.0			365	A/S	2	D	B,R		2300
FORM	2350	NS FORM		2.0			365	A/S	2	NS	B,R,M		2350
SEC FORM Total			2	4.0	0	0.0							
DIVISION FORMATION (DIV FORM)													
FORM	2301	DIVISION FORM		2.0			365	A/S	3	(NS)	B,R,M		2301
DIV FORM Total			1	2.0	0	0.0							
THREAT REACTION INFRARED (IRTR)													
IRTR	2400	IRTR		2.0			365	A/S	1	(NS)	B,R,M		2400
IRTR Total			1	2.0	0	0.0							
CORE SKILL TOTAL			**13**	**32.0**	**0**	**0.0**							
MISSION SKILL (3000 Phase)													
ASSAULT LANDING ZONE (ALZ)													
ALZ	3500	IMPROVED ALZ		2.0			365	A/S	1	D	B,SC,R		3500
ALZ	3501	TACTICAL ARRIVALS		2.0			365	A/S	1	(NS)	B,R		3501
AALZ	3502	UNIMPROVED ALZ		2.0			730	A/S	1	(NS)	B,R,M		3502
ALZ	3550	NVD ALZ		2.0			180	A/S	1	NS	B,SC,R,M		3550
ALZ Total			4	8.0	0	0.0							
AIR-TO-AIR REFUELING (AAR)													
AAR	3600	FWAAR/TRAAR		3.0			365	A/S	1	(N)	B,R,M		3600
AAR	3601	DAY HAAR		3.0			365	A/S	1	D	B,SC,R		3601
AAR	3650	NVD HAAR		3.0			180	A/S	1	NS	B,SC,R,M		3650
AAR Total			3	9.0	0	0.0							
AIR DELIVERED GROUND REFUELING (ADGR)													
ADGR	3660	ADGR		0.0			730	A/S	1	(N)	B,R,M		3660
RGR Total			1	0.0	0	0.0							
AIR DELIVERY (AD)													
AD	3700	AD		2.0			365	A/S	1	D	B,R		3700
AD	3750	NS AD		2.0			365	A/S	1	NS	B,R,M		3750
AD Total			2	4.0	0	0.0							
MISSION SKILL TOTAL			**10**	**21.0**	**0**	**0.0**							

KC-130T PILOT T&R MATRIX													
STAGE	TRNG CODE	T&R DESCRIPTION	# FLIGHTS	FLT TIME	# SIMS	SIM TIME	REFLY	DEVICE	# A/C	COND	POI	EVAL	EVENT CONV
CORE PLUS (4000 Phase)													
TACTICAL NAVIGATION (TN)													
TN	4200	SEC TN		2.0			365	A/S	2	D	B,R		4200
TN	4201	SEC LAT		2.0			180	A/S	2	D	B,R		4201
TN	4250	NS SEC TN		2.0			180	A/S	2	NS	B,R,M		4250
TN Total			3	6.0	0	0.0							
THREAT REACTION RADAR (RF TR)													
RF TR	4400	RF TR		2.0			365	A/S	1	(NS)	B,R,M		4400
RF TR Total			1	2.0	0	0.0							
DEFENSIVE TACTICS (DT)													
DT	4410	1V1		2.0			365	A	1	D	B,R		4410
DT	4411	1V2		2.0			365	A	1	D	B,R,M		4411
DT TOTAL			2	4.0	0	0.0							
AIR DELIVERY (AD)													
AD	4700	MFF		2.0			365	A/S	1	(N)	B,R,M		4700
AD TOTAL			1	2.0	0	0.0							
BATTLEFIELD ILLUMINATION (BI)													
BI	4710	BI		2.0			730	A/S	1	N	B,R,M		4710
BI Total			1	2.0	0	0.0							
CORE PLUS TOTAL			**8**	**16.0**	**0**	**0.0**							

KC-130T PILOT T&R MATRIX (5000 AND 6000 Phase)

STAGE	TRNG CODE	T&R DESCRIPTION	# FLIGHTS	FLT TIME	# SIMS	SIM TIME	REFLY	DEVICE	# A/C	COND	PREREQUISITE	POI	EVAL	CHAINING		EVENT CONV
INSTRUCTOR TRAINING (5000 Phase)																
BASIC INSTRUCTOR PILOT (BIP)																
BIP	5100	BIP		3.0			*	A	1	(N)	6118,100 hours TPC	B,R	E			5100
		BIP Total	**1**	**3.0**	**0**	**0.0**										
NATOPS INSTRUCTOR (ANI/NI/NE)																
NI	5140	ANI,NI		3.0			*	A	1	(N)	5100	B	E			5140
NI	5141	ANI,NI CK		3.0			*	A	1	(N)	5140	B,SC,R	E			5141
		NI Total	**2**	**6.0**	**0**	**0.0**										
FLEET REPLACEMENT SQUADRON INSTRUCTOR (FRSI)																
FRSI	5145	FRSI		3.0			*	A	1	(N)	5141,1000 hours TMS	B	E			5145
FRSI	5146	FRSI		3.0			*	A	1	(N)	5145	B	E			5146
FRSI	5147	FRSI CK		2.0			*	A	1	(N)	5146	B,SC,R	E			5147
		FRSI Total	**3**	**8.0**	**0**	**0.0**										
FLIGHT LEADERSHIP STANDARDIZATION EVALUATOR (FLSE)																
FLSE	5320	FLSE		3.0			*	A	2	(NS)	MAWTS-1 CC	B,SC,R	E			5329
		FLSE Total	**1**	**3.0**	**0**	**0.0**										
NIGHT SYSTEMS INSTRUCTOR (NSI)																
NSI	5150	NSI		2.0			*	A	1	NS	MAWTS-1 CC	B	E			5150
NSI	5151	NSI		2.0			*	A	1	NS	MAWTS-1 CC	B,SC	E			5151
NSI	5152	NSI		2.0			*	A	1	NS	MAWTS-1 CC	B,SC,R	E			5152
NSI	5153	NSI		2.0			*	A	1	NS	MAWTS-1 CC	B,SC,R	E			5153
		NSI Total	**3**	**8.0**	**0**	**0.0**										
LOW ALTITUDE TACTICS INSTRUCTOR (LATI)																
LATI	5210	LATI		2.0			*	A	1	D	MAWTS-1 CC	B	E			5210
LATI	5211	LATI		2.0			*	A	1	D	MAWTS-1 CC	B	E			5211
LATI	5212	LATI		2.0			*	A	2	D	MAWTS-1 CC	B,SC	E			5212
LATI	5213	LATI		2.0			*	A	1	D	MAWTS-1 CC	B,SC,R	E			5213
		LATI Total	**4**	**8.0**	**0**	**0.0**										
DEFENSIVE TACTICS INSTRUCTOR (DTI)																
DTI	5410	DTI		1.0			*	A	1	D	MAWTS-1 CC	B	E	4410		5410
DTI	5411	DTI		1.0			*	A	1	D	MAWTS-1 CC	B	E	4410		5413
DTI	5412	DTI		1.0			*	A	2	D	MAWTS-1 CC	B,SC	E	4411		5412
DTI	5413	DTI		1.0			*	A	1	D	MAWTS-1 CC	B,SC,R	E	4410		5413
		DTI Total	**4**	**4.0**	**0**	**0.0**										
WEAPONS TACTICS INSTRUCTOR																
WTI	5999	WTI		*			*				MAWTS-1 CC	B	E			5999
		WTI Total	**0**	**0.0**	**0**	**0.0**										

KC-130T PILOT T&R MATRIX (5000 AND 6000 Phase)

STAGE	TRNG CODE	T&R DESCRIPTION	# FLIGHTS	FLT TIME	# SIMS	SIM TIME	REFLY	DEVICE	# A/C	COND	PREREQUISITE	POI	EVAL	CHAINING		EVENT CONV
REQUIREMENTS, CERTIFICATIONS, DESIGNATIONS, AND QUALIFICATION (6000 Phase)																
LEFT SEAT FAMILIARIZATION (RQD)																
RQD	6100	KC-130T FAM		2.0			365	A	1	D	Qualified as TPC	B,SC,R	E			
LS FAM Total			**1**	**2.0**	**0**	**0.0**										
POST MAINTENANCE CHECK FLIGHT PIOLOT (FCP)																
FCP	6106	FCF		2.0			*	A/S	1	D	6118	B,SC,R				6106
FCP Total			**1**	**2.0**	**0**	**0.0**										
NATOPS (NTPS)																
NTPS	6010	OPEN BOOK					365					B,SC,R,M	E			6010
NTPS	6011	CLOSED BOOK					365					B,SC,R,M	E			6011
NTPS	6012	ORAL EXAM					365					B,SC,R,M	E			6012
NTPS	6013	TACTICS EXAM					*					B,SC	E			6013
NTPS	6110	T3P		3.0			365	A	1	(N)	6010,6011,6012	B,SC,R,M	E			6110
NTPS	6111	T2P		2.0			365	A/S	1	(N)	6010,6012,6013	B,SC,R,M	E	6110		6111
SNTPS	6112	SIMS				27.0	*	S		(N)		B	E			6112
NTPS	6113	PRF		3.0			*	A	1	(N)	6112	B	E			6113
NTPS	6114	PRF		3.0			*	A	1	(N)	6113	B	E			6114
NTPS	6115	PRF		3.0			*	A	1	(N)	6114	B	E			6115
NTPS	6117	ROUTE CHECK		8.0			*	A	1	(N)	6115	B	E			6117
NTPS	6118	TPC		2.0			365	A/S	1	(N)	6010,6011,6012,6113, 6114,6115,6117	B,SC,R,M	E	6110,6111,6100		6118
NTPS	6120	EP SIM				1.0	90	A/S		(N)		B,SC,R,M	E			6120
NTPS Total			**7**	**24.0**	**2**	**28.0**										
INSTRUMENT (INST)																
INST	6030	INST GND SCH					365					B,SC,R,M	E			6030
INST	6031	INST ORAL EXAM					365					B,SC,R,M	E			6031
INST	6130	STANDARD INST		2.0			365	A/S	1	(N)	6030,6031	B,SC,R,M	E			6130
INST	6131	SPECIAL INST		2.0			365	A/S	1	(N)	6030,6031,6130	B,SC,R,M	E	6130		6131
INST Total			**2**	**4.0**	**0**	**0.0**										
SECTION LEADER (SL)																
SL	6300	SEC LD PRACT		3.0			*	A	2	(NS)	8630,8660	B	E			6300
SL	6301	SEC LD CERT		3.0			*	A	2	(NS)	6300	B,SC,R	E		6302	6301
SL	6302	SEC LD PROF		2.0			365	A	2	(NS)	6301	B,SC,R,M				6302
SL Total			**3**	**8.0**	**0**	**0.0**										

KC-130T PILOT T&R MATRIX (5000 AND 6000 Phase)																
STAGE	TRNG CODE	T&R DESCRIPTION	# FLIGHTS	FLT TIME	# SIMS	SIM TIME	REFLY	DEVICE	# A/C	COND	PREREQUISITE	POI	EVAL	CHAINING		EVENT CONV
DIVISION LEADER (DL)																
DL	6303	DIV LD PRACT		3.0			*	A	3	(NS)	8640,8641,8620	B	E			6303
DL	6304	DIV LD CERT		3.0			*	A	3	(NS)	6303	B,SC,R	E		6305	6304
DL	6305	DIV LD PROF		2.0			365	A	3	(NS)	6304	B,SC,R,M				6305
DL Total			3	8.0	0	0.0										
TACTICAL REFUELING AREA COMMANDER (TACRAC)																
TACRAC	6311	TACRAC CERT		3.0			*	A	2	(NS)	6301	B,SC,R	E		6312	6311
TACRAC	6312	TACRAC PROF		2.0			365	A	2	(NS)	6311	B,SC,R,M				6312
TACRAC Total			2	5.0	0	0.0										
STRATEGIC REFUELING AREA COMMANDER (STRATRAC)																
STRATRAC	6314	STRATRAC CERT		6.0			*	A	2	(NS)	6304,6311	B,SC,R	E		6315	6314
STRATRAC	6315	STRATRAC PROF		3.0			730	A	2	(NS)	6314	B,SC,R,M				6315
STRATRAC Total			2	9.0	0	1.0										

2.14 T&R ATTAIN AND MAINTAIN TABLES

KC-130T PILOT ATTAIN AND MAINTAIN TABLE													
T&R EVENT INFORMATION				ATTAIN PROFICIENCY						MAINTAIN PROFICIENCY		PREREQUISITES	CHAINING
				BASIC POI		SERIES CONV POI		REFRESHER POI		MAINTAIN POI			
T&R DESCRIPTION	STAGE	EVENT #	RE-FLY	STAGE	EVENT #	STAGE	EVENT #	STAGE	EVENT #	STAGE	EVENT #		
CORE SKILLS (2000 PHASE)													
LEFT SEAT FAM	FAM	2100R	*	FAM	2100R	FAM	2100R	FAM	2100R	FAM	2100R		
HLL NS FAM	NS	2150R	365	NS	2150R	NS	2150R	NS	2150R	NS		6110	
LLL NS FAM	NS	2151R	180		2151R		2151R		2151R		2151R	2150	2150
LONG RANGE NAV	LRN	2160R	365	LRN	2160R	LRN		LRN	2160R	LRN	2160R	6110	
TACNAV	TN	2200R	365	TN	2200R	TN		TN	2200R	TN		6110	
HLL	TN	2250R	365		2250R				2250R			2200	2200
LLL	TN	2251R	180		2251R		2251R		2251R		2251R	2200,2250	2200, 2250
LAT	LAT	2260R	180	LAT	2260R	LAT		LAT	2260R	LAT		2200	2200
LAT	LAT	2261R	180		2261R		2261R		2261R		2261R	2260	2260,2200
SECTION FORM	FORM	2300R	365	SEC FORM	2300R	SEC FORM		SEC FORM	2300R	SEC FORM		6110	
NS SEC FORM	FORM	2350R	365		2350R				2350R		2350R	2300	2300,2150~NS,2151~LLL
DIVISION FORM	FORM	2301R	365	DIV FORM	2301R	DIV FORM		DIV FORM	2301R	DIV FORM	2301R	2300,2350~NS,2150~NS, 2151~LLL,2250~NS,2251~LLL	2300,2350~NS,2150~NS, 2151~LLL
IR THREAT REACTION	IR TR	2400R	365	IR TR	2400R	IR TR		IR TR	2400R	IR TR	2400R	LAT Q,2150~NS,2151~LLL, 2250~NS,2251~LLL	2261, 2260
MISSION SKILLS (3000 PHASE)													
IMPROVED ALZ	ALZ	3500R	365	ALZ	3500R	ALZ	3500R	ALZ	3500R	ALZ		6100	
TAC ARRIVALS	ALZ	3501R	365		3501R				3501R			6100	3500
UNIMPROVED ALZ	ALZ	3502R	730		3502R				3502R		3502R	3500,3550~NS	3500
NVD ALZ	ALZ	3550R	180		3550R		3550R		3550R		3550R	2150~NS,2151~LLL,3500	3500,3501,2150~HLL,2151~LLL
FWAAR/TRAAR	AAR	3600R	365	AAR	3600R	AAR		AAR	3600R	AAR	3600R	6110	
DAY HAAR	AAR	3601R	365		3601R		3601R		3601R			6110	
NVD HAAR	AAR	3650R	180		3650R		3650R		3650R		3650R	3601,2150~HLL,2151~LLL	3601,2150~HLL,2151~LLL
ADGR	ADGR	3660R	730	ADGR	3660R	ADGR		ADGR	3660R	ADGR	3660R	6110	
AD	AD	3700R	365	AD	3700R	AD		AD	3700R	AD		6110	
AD	AD	3750R	365		3750R				3750R		3750R	3700	3700,2150~HLL,2151~LLL
CORE PLUS (4000 PHASE)													
TN	TN	4200R	365	TN	4200R	TN		TN	4200R	TN		2200, 2300	2200, 2300
TN	TN	4201R	180		4201R				4201R		4201R	2261, 4200	2200, 2261, 2300, 4200
TN	TN	4250R	180		4250R				4250R		4250R	2350, 4200	2150~HLL,2151~LLL,2350,4200
TR	RF TR	4400R	365	RF TR	4400R	RF TR		RF TR	4400R	RF TR	4400R	LATQ (2260, 2261)	2400, 2261
DEFTAC	DT	4410R	365	DT	4410R	DT		DT	4410R	DT		2260, 2261, 4400	2261
DEFTAC	DT	4411R	365		4411R				4411R		4411R	4410	2261, 4410
AD	AD	4700R	365	AD	4700R	AD		AD	4700R	AD	4700R	3700	3700
BI	BI	4710R	730	BI	4710R	BI		BI	4710R	BI	4710R	3700	3700

2.15 KC-130J TO KC-130T EQUIVALENCY MATRIX

KC-130J TO KC-130T EQUIVALENCY MATRIX		
KC-130J	→	**KC-130T**
2000 PHASE		
LRN 2160	→	LRN 2160
TN 2201	→	TN 2200
TN 2250	→	TN 2250
LAT 2260	→	LAT 2260
FORM 2300	→	FORM 2300
FORM 2301	→	FORM 2301
FORM 2350	→	FORM 2350
TR 2400	→	TR 2400
3000 PHASE		
ALZ 3501	→	ALZ 3501
ALZ 3503	→	ALZ 3502
AAR 3600	→	AAR 3600
RGR 3660	→	RGR 3660
AD 3703	→	AD 3700
AD 3704	→	AD 3750
4000 PHASE		
TN 4200	→	TN 4200
NS(L) 4250	→	TN 4250
TR 4401	→	TR 4400
DT 4410	→	DT 4410
DT 4411	→	DT 4411
AD 4701	→	AD 4700
BI 4710	→	BI 4710
5000 PHASE		
BIP 5110	→	BIP 5100
NI 5140	→	NI 5140
FRSI 5145	→	FRSI 5145
FRSI 5146	→	FRSI 5146
NS(H) 5150	→	NSI 5150
NS(H) 5151	→	NSI 5152
LAT 5210	→	LAT 5210
LAT 5211	→	LAT 5211
DT 5410	→	DTI 5410
DT 5411	→	DTI 5411
6000 PHASE		
RQD 6100	→	RQD 6100
NTPS 6110	→	NTPS 6110
SL 6300	→	SL 6300
DL 6303	→	DL 6303

CHAPTER 3

KC-130T TACTICAL SYSTEMS OPERATOR (MOS 7372/7380)

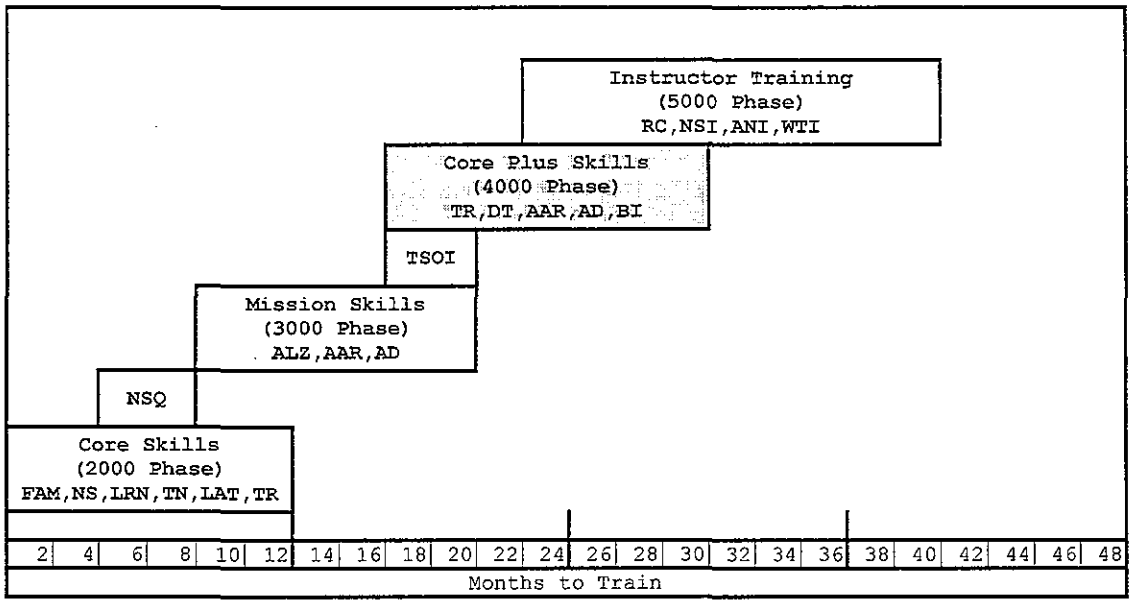
CHAPTER 3

TACTICAL SYSTEMS OPERATOR (TSO)/MISSION SPECIALIST

3.0 TACTICAL SYSTEMS OPERATOR (TSO)/MISSION SPECIALIST 7372 / 7380 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 warfighting capabilities.

3.1 TACTICAL SYSTEMS OPERATOR (TSO)/MISSION SPECIALIST TRAINING PROGRESSION MODEL. This model represents the recommended training progression for the average TSO crewmember. Units should use the model as a point of departure to generate individual training plans.

3.2 INDIVIDUAL CORE SKILL PROFICIENCY REQUIREMENTS. See Paragraph 3.3.



3.3 INDIVIDUAL CORE/MISSION/CORE PLUS SKILL PROFICIENCY (CSP) REQUIREMENTS

3.3.1 Management of individual CSP/MSP/CPSP/CPMP serves as the foundation for developing proficiency requirements in DRRS.

3.3.2 Individual CSP is a "Yes/No" status assigned to an individual by Core Skill. When an individual attains and maintains CSP in a Core Skill, the individual counts towards CMMR Unit CSP requirements for that Core Skill.

3.3.3 Proficiency is attained by individual Core/Mission/Core Plus skill where the training events for each skill are determined by POI assignment.

3.3.4 Once proficiency has been attained by Core/Mission/Core Plus Skill (by any POI assignment) then the individual maintains proficiency by executing those events noted in the maintain table and in the "Maintain POI" column of the T&R syllabus matrix. An individual maintains proficiency by individual Core/Mission/Core Plus Skill.

Note

Individuals may be attaining proficiency in some Core/Mission/Core Plus Skills while maintaining proficiency in other Core/Mission/Core Plus Skills.

3.3.5 Once proficiency has been attained, should one lose proficiency in an event in the "Maintain POI" column, proficiency can be re-attained by demonstrating proficiency in the delinquent event. Should an individual lose proficiency in all events in the "Maintain POI" column by Core/Mission/Core Plus Skill, the individual will be assigned to the Refresher POI for that Skill. To regain proficiency for that Core/Mission/Core Plus Skill the individual must demonstrate proficiency in all R-coded events for that Skill.

3.3.6 Attain/Maintain Tables

ATTAIN PROFICIENCY						MAINTAIN PROFICIENCY	
BASIC POI		SER CONV POI		REFRESHER POI		MAINTAIN POI	
SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #
FAM	2100R	FAM		FAM	2100R	FAM	2100R
NS	2150R	NS		NS	2150R	NS	2150R
	2151R				2151R		2151R
LRN	2160R	LRN		LRN	2160R	LRN	2160R
TN	2200R	TN		TN	2200R	TN	
	2250R				2250R		
	2251R				2251R		2251R
LAT	2260R	LAT		LAT	2260R	LAT	
	2261R				2261R		2261R
TR	2400R	TR		TR	2400R	TR	
	2401R				2401R		2401R
ALZ	3500	ALZ		ALZ		ALZ	
	3501R				3501R		3501R
AAR	3600R	AAR		AAR	3600R	AAR	3600R
	3601R						3601R
	3650R				3650R		3650R
AD	3700	AD		AD		AD	3700
	3701						3701
	3750R				3750R		3750R
TR	4400R	TR		TR	4400R	TR	4400R
DT	4410R	DT		DT	4410R	DT	4410R
AAR	4600	AAR		AAR		AAR	
	4601R				4601R		4601R
AD	4700R	AD		AD	4700R	AD	4700R
	4701R				4701R		4701R
BI	4710R	BI		BI	4710R	BI	4710R

3.4 QUALIFICATION AND DESIGNATION 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 final events. Qualification and designation letters signed by the commanding officer shall be placed in the individual's NATOPS jacket. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.

INDIVIDUAL QUALIFICATION REQUIREMENTS	
Qualification	**Event Requirements**
NSQ	2150,2151

INDIVIDUAL DESIGNATION REQUIREMENTS	
Designation	**Event Requirements**
ANNUAL NATOPS	6118
TSOI	5100,5101,5102
ANI/NI/GNE	5140
RENDEZVOUS CONTROLLER	4600,4601
NSI	5150,5151,5153
WTI	5999

3.5 PROGRAMS OF INSTRUCTION (POI)

3.5.1 Basic (B) POI

WEEKS	COURSE	PERFORMING ACTIVITY
0-48	Core Skill Training	Tactical Squadron
32-76	Mission Skill Training	Tactical Squadron
64-120	Core Plus Training	Tactical Squadron

3.5.2 Refresher (R) POI. A TSO returning from a DIFDEN tour exceeding 12 months should complete the Refresher syllabus.

WEEKS	COURSE	PERFORMING ACTIVITY
1	Squadron Ground Training	Tactical Squadron
2-48	Core Skill Training	Tactical Squadron

3.6 ACADEMIC TRAINING

3.6.1 Academic training shall be conducted for each phase/stage of the syllabus. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

3.6.2 External academic courses of instruction available to complete the syllabus are listed below:

COURSE	ACTIVITY
Naval Aircrew Candidate Course	NAS Pensacola, FL
Survival, Evasion, Resistance, and Escape (SERE) Course	NAS Brunswick ME NAS North Island CA
NITE lab	Tactical Squadron
Weapons and Tactics Instructor (WTI)	MAWTS-1
Mobility Electronic Combat Officer Course (MECOC)	St Joseph, MO
Advanced Airlift Tactics Training Course (AATTC)	AATTC, St. Joseph MO

3.7 CORE SKILL INTRODUCTION PHASE (1000). Not applicable.

3.8 CORE SKILL PHASE (2000)

3.8.1 General. The focus of Core Skill Phase is to train the TSO in duties essential to wartime employment. This includes: Familiarization (FAM), Night Systems (NS) operations, Long Range Navigation (LRN), Tactical Navigation (TN), Low Altitude Tactics (LAT), and IR Threat Reaction (TR).

a. The TSO under instruction shall receive the appropriate MAWTS-1 Course Catalog Academic Support Package (ASP) lectures prior to the appropriate stage of training.

b. The trainee is required to occupy the TSO position in the flight station on all syllabus training flights.

c. All instructors must be proficient in the event to instruct.

d. CRM shall be briefed for all flights and/or events.

3.8.2 Familiarization (FAM)

a. Purpose. This stage of training will familiarize the TSO with local squadron procedures.

b. General. Emphasize planning, briefing, pre-flight procedures, and CRM.

c. Crew Requirements. Shall be instructed by a TSOI.

d. Academic/Ground Training. Prior to FAM-2100, the TSO should complete a familiarization training evolution to include cockpit management, aircraft preflight and post flight, emergency evacuation, and use and donning of all emergency equipment.

FAM-2100	4.0	365	B,R,M	(N)	A	1 KC-130

Goal. Introduce the TSO to local area and squadron operating procedures.

Requirement. Execute a local flight, concentrating on local course rules procedures per station orders, squadron and TSO SOPs.

Performance Standard. Per local and squadron directives, NATOPS, FLIP, and ICAO procedures.

Prerequisite. The TSO will review the squadron and TSO SOPs prior to this flight and shall successfully complete a local course rules examination.

3.8.3 Night Systems (NS)

a. Purpose. To train the TSO in NS. The TSO will be capable of performing crew duties using NVDs during High Light Level (HLL) and Low Light Level (LLL) conditions. Upon completion on this stage of training the TSO should be qualified as NSQ by the squadron commanding officer.

b. General. Emphasize planning, briefing, pre-flight procedures, and CRM.

c. Crew Requirements. Shall be instructed by a NSI.

d. Academic/Ground Training. Must complete NITE Lab and complete NVD I and NVD II MAWTS-1 ASPs.

NS-2150	3.0	365	B,R,M	NS	A/S	1 KC-130

Goal. Introduce the TSO to the use and wear of NVD's under High Light Level (HLL) conditions with emphasis on NVD pre-flight, in-flight donning, and CRM.

Requirement. The TSO will plan and fly a non-tactical NVD sortie under HLL conditions. The TSO shall be introduced to: NVD emergency procedures, proper NVD scanning techniques, terrain recognition, atmospheric impact on NVD performance, and visual acuities associated with HLL conditions.

Performance Standard. Demonstrate the ability to function as a TSO per NATOPS utilizing NVD's under HLL. The non-motion simulator, 2F176, can

be used to maintain currency in this code for current and proficient TSOs.

Prerequisite. FAM-2100. Must complete NITE Lab and complete NVD I and NVD II MAWTS-1 ASPs.

NS-2151 3.0 365 B,R,M NS A/S 1 KC-130

Goal. Introduce the TSO to the use and wear of NVD's under Low Light Level (LLL) conditions with emphasis on NVD pre-flight, in-flight donning, and CRM. Upon successful completion of this event the TSO should be qualified as NSQ by the squadron commanding officer.

Requirement. The TSO will plan and fly a non-tactical NVD sortie under LLL conditions. The TSO shall refine proper NVD scanning techniques, be introduced to terrain recognition, atmospheric impact on NVD performance, and visual acuities associated with LLL conditions.

Performance Standard. Demonstrate the ability to function as a TSO per NATOPS utilizing NVD's under LLL conditions.

- Prerequisite. NS-2150.

3.8.4 Long Range Navigation (LRN)

a. Purpose. Refine the TSO's proficiency and confidence required for safe extended ICAO/Non-RADAR flight. Specifically, at the end of this stage the TSO will be able to:

Integrate all available navigation aids.

Use the aircraft's RADAR for fixing and/or weather avoidance as necessary.

Correctly determine the required planned ramp, ensuring fuel consumption and corresponding progress toward destination are within safe limits.

b. General. This flight shall be accomplished in an ICAO environment on a multi-national itinerary with a minimum of one 5-hour route.

c. Crew Requirements. Shall be instructed by a TSOI.

d. Academic/Ground Training. The TSO will review procedures for ICAO flight to include the FLIP and FCG.

LRN-2160 5.0 365 B,R,M (N) A 1 KC-130

Goal. Integrate all available navigation aids emphasizing INS and GPS operations in a global environment.

Requirement. The TSO will demonstrate the ability to perform mission planning in an ICAO environment and to determine the aircraft's position within FLIP tolerances.

Performance Standard. Per NATOPS, FLIP, ICAO, and FCG procedures.

Prerequisite. FAM-2100.

3.8.5 Tactical Navigation (TN)

a. Purpose. Develop the TSO's knowledge and proficiency in tactical navigation.

b. General. Emphasize computer-based mission planning systems, RADAR terrain mapping, terrain masking, threat avoidance, time, and course control. Route selection should offer maximum variations in en route conditions.

c. Crew Requirements. TN-2200 shall be instructed by a TSOI. For TN-2250 and TN-2251 a TSO NSI is required only if the initial sortie is conducted using NVD's and the TSO under instruction is not NSQ. A TSOI who is NSQ may instruct an NSQ TSO on initial TN-2250 and TN-2251 events.

d. Academic/Ground Training. The TSO will review the appropriate KC-130 ANTTP chapters and MAWTS-1 ASP's on low-level operations.

TN-2200 2.0 * B,R D A/S 1 KC-130

Goal. Refine skills required to plan, brief, and execute a tactical, low-level sortie.

Requirement

Perform TSO duties on a tactical, low-level sortie.

Review route planning and chart preparation procedures emphasizing checkpoint selection, use of intermediate checkpoints, limiting features, prominent terrain features, and airspace control measures.

Conduct a route brief.

Navigate along a low-level route consisting of a minimum of six (6) pre-selected checkpoints integrating all available navigation aids.

Performance Standard. Maintain aircraft position within route width and arrive at a pre-selected checkpoint within +/- 30 seconds of a pre-determined TOT. The non-motion simulator, 2F176, can be used to maintain currency in this code for current and proficient TSOs.

Prerequisite. FAM-2100.

TN-2250 2.0 * B,R, NS A/S 1 KC-130

Goal. Introduce skills required to plan, brief, and execute a HLL night systems, tactical, low-level sortie.

Requirement

Perform TSO duties under HLL conditions on a tactical, low-level sortie.

Introduce the tactical advantages and administrative restrictions associated with HLL conditions.

Review route planning and chart preparation procedures emphasizing checkpoint selection, intermediate checkpoints, limiting features, prominent terrain features, and airspace control measures during HLL conditions.

Conduct a route brief.

Navigate along a low-level route consisting of a minimum of six (6) pre-selected checkpoints integrating all available navigation aids.

Discuss CRM considerations during tactical operations.

Performance Standard. Maintain aircraft position within route width and arrive at a pre-selected checkpoint within +/- 30 seconds of a pre-determined TOT. The non-motion simulator, 2F176, can be used to maintain currency in this code for current and proficient TSOs.

Prerequisite. TN-2200 and NS-2150.

TN-2251 2.0 180 B,R,M NS A/S 1 KC-130

Goal. Introduce skills required to plan, brief, and execute a tactical, low-level sortie under LLL conditions.

Requirement.

Perform TSO duties on a tactical, low-level sortie under LLL conditions.

Introduce the tactical advantages and administrative restrictions associated with LLL conditions.

Review night route planning and chart preparation procedures emphasizing checkpoint selection, altitude planning, use of intermediate checkpoints, limiting features, prominent terrain features, and airspace control measures during night operations.

Conduct a route brief.

Navigate along a low-level route consisting of a minimum of six (6) pre-selected checkpoints integrating all available navigation aids.

Discuss CRM considerations associated with tactical NS operations.

Performance Standard. Maintain aircraft position within route width and arrive at a pre-selected checkpoint within +/- 30 seconds of a pre-determined TOT. The non-motion simulator, 2F176, can be used to maintain currency in this code for current and proficient TSOs.

Prerequisite. TN-2250, 2151.

3.8.6 Low Altitude Tactics (LAT)

a. Purpose. Develop the TSO's knowledge and proficiency in Low Altitude Tactics.

b. General. General LAT rules of conduct (ROC) are contained in NAVMC 3500.14 and KC-130 specific LAT guidance is contained in the KC-130 ANTTP. Emphasize computer-based mission planning systems, RADAR terrain mapping, terrain masking, threat avoidance, time, and course control. Route selection should offer maximum variations in en route conditions.

c. Crew Requirements. Shall be instructed by a TSOI.

d. Academic/Ground Training. The TSO will review the appropriate KC-130 ANTTP chapters and MAWTS-1 ASP's on low-level and LAT operations.

LAT-2260 1.0 * B,R D A 1 KC-130

Goal. Introduce skills required to plan, brief, and execute a tactical, low-level sortie in a LAT environment.

Requirement

Perform TSO duties on a tactical, low-level sortie in the LAT environment.

Review route planning and chart preparation procedures emphasizing threat assessment and avoidance, terrain masking, checkpoint selection, and airspace control measures.

Conduct a route brief.

Navigate along an approved LAT route consisting of a minimum of six (6) pre-selected checkpoints integrating all available navigation aids and maximizing use of terrain to degrade detection and enhance survivability.

Discuss CRM considerations during operations at or near crew comfort level.

Performance Standard. Maintain awareness of aircraft position within route width/airspace during LAT maneuvering.

Prerequisite. TN-2200.

LAT-2261 1.0 365 B,R,M D A 1 KC-130

Goal. Demonstrate skills required to plan, brief, and execute a tactical, low-level sortie in a LAT environment.

Requirement

Perform TSO duties on a tactical, low-level sortie in the LAT environment.

Demonstrate an understanding of route planning and chart preparation procedures emphasizing threat assessment and avoidance, terrain masking, checkpoint selection, and airspace control measures.

Conduct a route brief.

Navigate along an approved LAT route consisting of a minimum of six (6) pre-selected checkpoints integrating all available navigation aids and maximizing use of terrain to degrade detection and enhance survivability.

Discuss CRM considerations during operations at or near crew comfort level.

Performance Standard. Maintain aircraft position within route width and arrive at a pre-selected checkpoint within +/- 30 seconds of a pre-determined TOT during LAT maneuvering.

Prerequisite. LAT-2260.

3.8.7 Threat Reaction (TR)

a. Purpose. To train the TSO in the skills required to operate the KC-130 Aircraft Survivability Equipment (ASE) suite in a tactical scenario in an IR MANPAD and small arms surface to air threat environment.

b. General

Aircraft should have a fully operational ASE suite.

Appropriate expendables shall be loaded prior to initial events. In order to maximize training opportunities, TSO's who are proficient in TR-2401 may maintain proficiency by utilizing the training mode of the ALE-47 provided training is conducted in conjunction with TN-2210, appropriate threats are briefed, ASE suite is operated IAW ANTTP, and appropriate maneuvers are conducted in conjunction with simulated release of expendables.

Initial events shall be flown in the day.

The use of Smokey SAM pyrotechnics and Missile Warning System stimulators is recommended. Aircrew training officers may have to be creative in gaining the best possible training due to the limited availability of expendables and ranges.

c. Crew Requirements. Shall be instructed by a WTI.

d. Academic/Ground Training. The TSO shall receive instruction on the IR/MANPAD threat, counter-tactics, expendable characteristics and

effectiveness, capabilities and limitations of the AAR-47, ALE-47, and ALQ-157.

TR-2400 2.0 * B,R D A/S 1 KC-130

Goal. Introduce the planning considerations and in-flight operation of the ASE systems with emphasis on setup of the system for automatic and continuous defense against an IR/MANPAD and small arms surface to air threat.

Requirement

Perform TSO duties associated with the operation of the ASE suite in order to counter an IR/MANPAD and small arms surface to air threat.

Plan and configure the ASE suite to counter an IR/MANPAD and small arms surface to air threat.

Introduce the basic concepts of various chaff and flare load-out configurations, and capabilities and limitations of all available expendables. Introduce operation of the ALE-47 CMDS.

Discuss the capabilities and limitations of the ALQ-157 with emphasis on IR jammer codes and power up/power down procedures.

Discuss the AAR-47s capabilities and limitations.

Discuss counter-tactics to include appropriate expendables and maneuvers for a specific threat.

Discuss CRM considerations for operations in a threat environment.

Deploy expendables in response to simulated threat systems.

Multiple passes shall be made against simulated threat systems and appropriate maneuvers and countermeasures initiated.

Performance Standard. Must correctly configure and operate the ASE suite, use appropriate terminology, and initiate appropriate defensive responses to threat indications.

Prerequisite. FAM-2100 and TN-2200.

Ordnance. 120 flare expendables (required for initial event).

External Syllabus Support. SUAS permitting deployment of decoy flares. An EW range with Smokey SAM teams, AAR-47 stimulators and debrief capabilities greatly enhance aircrew training and should be used to the maximum extent possible.

TR-2401 2.0 365 B,R,M (N) A/S 1 KC-130

Goal. Refine the planning considerations and in-flight operation of the ASE systems with emphasis on setup of the system for automatic and continuous defense against an IR/MANPAD and small arms surface to air threat.

Requirement

Perform TSO duties associated with the operation of the ASE suite in order to counter an IR/MANPAD and small arms surface to air threat.

Plan and configure the ASE suite to counter an IR/MANPAD and small arms surface to air threat.

Demonstrate a basic understanding of various flare load-out configurations and decoy flare capabilities and limitations.

Demonstrate the ability to operate the ALE-47 CMDS.

Demonstrate an understanding of the ALQ-157 IR jammer codes and power up/power down procedures.

Demonstrate an understanding of the AAR-47 capabilities and limitations.

Discuss IR/MANPAD and small arms counter-tactics to include appropriate expendables and maneuvers for a specific threat.

Discuss CRM considerations for operations in a threat environment.

Deploy expendables using both the remote dispensing switches and master switch.

Multiple engagements shall be made against a simulated IR/MANPAD threat system and appropriate maneuvers and countermeasures initiated.

Performance Standard. Must correctly configure and operate the ASE suite, use appropriate terminology and initiate appropriate defensive responses to threat indications.

Prerequisite. TR-2400.

Ordnance. 120 flare expendables (required for initial event).

External Syllabus Support. SUAS permitting deployment of decoy flares. An EW range with Smokey SAM teams, AAR-47 stimulators and debrief capabilities greatly enhance aircrew training and should be used to the maximum extent possible.

3.9 MISSION SKILL PHASE (3000)

3.9.1 General. The focus of the Mission Skill Phase is to train the TSO in the skills required to meet the Marine Corps Tasks (MCT). These missions include: Assault Landing Zone (ALZ) operations, Air-to-Air Refueling (AAR), and Air Delivery (AD).

a. The TSO under instruction shall receive the appropriate MAWTS-1 ASP lectures prior to the appropriate stage of training.

b. The trainee is required to occupy the TSO position in the flight station on all syllabus training flights.

c. All instructors must be proficient in the events they instruct.

d. To fly an event aided without an instructor, the TSO must be NSQ and proficient in the given event.

e. CRM shall be briefed for all flights and/or events.

3.9.2 Assault Landing Zone (ALZ)

a. Purpose. To refine the skills necessary to plan and navigate to airfields emphasizing ingress/egress and approach profiles.

b. General. ALZ-3501 shall be accomplished in day or night VMC conditions.

c. Crew Requirements. For ALZ-3500 and ALZ-3501, a TSO NSI is required only if the initial sortie is conducted using NVD's and the TSO under instruction is not NSQ. A TSOI who is NSQ may instruct an NSQ TSO on initial ALZ-3500 and ALZ-3501 events flown using NVD's. Any TSOI may instruct these events during the day or unaided.

d. Academic/Ground Training. The TSO shall review the KC-130 ANTTP chapters and MAWTS-1 ASP's concerning ALZ operations.

ALZ-3500 1.5 * B (N) A/S 1 KC-130

Goal. To refine the skills necessary to plan and navigate to airfields emphasizing ingress/egress and approach profiles in a threat environment and introduce the planning considerations and the construction of a self-contained approach plate.

Requirement

Demonstrate an understanding of the various ingress and approach options to an airfield in a threat environment including SCA, IR cooled descent, random high, random low/shallow, straight-in, teardrop, and abeam approaches.

Demonstrate an understanding of SCA planning considerations associated with the various threat environments.

Discuss the advantages and disadvantages of various egress profiles.

Plan and execute multiple ingresses to an airfield to include: random high, random low/shallow, straight-in, teardrop, and abeam approaches; compute slowdown and descent points for the various approaches.

Performance Standard. For initial training, execute multiple tactical approaches. The non-motion simulator, 2F176, can be used to maintain currency in this code for current and proficient TSOs.

Prerequisite. FAM-2100.

External Syllabus Support. MMT, STS, EAF and/or CFR as required.

ALZ-3501 1.5 365 B,R,M (N) A/S 1 KC-130

Goal. Refine the planning considerations and execution of a self-contained approach.

Requirement

Demonstrate an understanding of SCA planning criteria, emphasizing ALZ requirements, terrain avoidance considerations, construction of the SCA plate, obstacle clearance criteria, slow down calculation, missed approach planning, the threat, and day/night/NS considerations.

Construct a SCA approach plate.

Conduct a SCA to an ALZ integrating all available navigation aids. The TSO will provide advisories to the pilots throughout the approach phase from initial descent to touchdown.

The TSO will not have access to visual navigation aids during training.

Prerequisite. ALZ-3500.

Performance Standard. For initial training, successfully execute multiple self-contained approaches. The non-motion simulator, 2F176, can be used to maintain currency in this code for current and proficient TSOs.

External Syllabus Support. MMT, STS, EAF and/or CFR as required.

3.9.3 Air-to-Air Refueling (AAR)

a. Purpose. To develop the TSO's knowledge, understanding, and proficiency required for fixed wing, tilt rotor, and helicopter AAR operations in the day or night environment.

b. General. Aircraft should have an operating APX, UHF/DF, A/A TACAN, and weather RADAR.

c. Crew Requirements. For AAR-3600 and AAR-3650, a TSO NSI is required only if the initial sortie is conducted using NVD's and the TSO under instruction is not NSQ. A TSOI who is NSQ may instruct an NSQ TSO on initial AAR-3600 and AAR-3650 events flown using NVD's. Any TSOI may instruct these events during the day or unaided.

d. Academic/Ground Training. The TSO will review air-to-air refueling procedures in the NATOPS, ANTTP and the ATP-56(B).

AAR-3600	2.0	365	B,R,M	(N)	A	1 KC-130

Goal. Refine skills required to plan, brief, and execute a fixed wing/tilt rotor air-to-air refueling mission.

Requirement. Perform TSO duties on a fixed wing/tilt rotor air-to-air-refueling mission per NATOPS.

Performance Standard. Arrive at an ARCP at ARCT (+/- 1 min) and maintain aircraft position within assigned refueling airspace.

Prerequisite. FAM-2100.

External Syllabus Support. Fixed-wing or tiltrotor receiver aircraft.

AAR-3601	2.0	365	B	D	A	1 KC-130

Goal. Refine skills required to plan, brief, and execute a day helicopter air-to-air refueling mission.

Requirement. Perform TSO duties on a day helicopter air-to-air refueling mission.

Performance Standard. Locate the receiver using RADAR, APX, UHF/DF, and/or A/A TACAN. Conduct multiple rendezvous.

Prerequisite. FAM-2100.

External Syllabus Support. Helicopter receiver aircraft.

AAR-3650	2.0	365	B,R,M	NS	A	1 KC-130

Goal. Introduce skills required to plan, brief, and execute a NVD helicopter air-to-air refueling mission.

Requirement. Perform TSO duties on a NVD helicopter air-to-air refueling mission.

Performance Standard. Locate the receiver using RADAR, APX, UHF/DF, and/or A/A TACAN. Conduct multiple rendezvous.

Prerequisite. AAR-3601.

External Syllabus Support. Helicopter receiver aircraft.

3.9.4 Air Delivery (AD)

a. Purpose. Instruct the TSO in air delivery techniques. At the end of this stage the TSO will be able to compute an air delivery release point, understand all checklists and time warnings, and call the airdrop.

b. General

Initial events shall be flown in the day except for AD-3750.

When conducting AD-3750, the prerequisite code of AD-3700 is required if cargo is to be dropped and AD-3701 is required if personnel (static-line) are to be dropped.

Once complete with the AD-3750, the TSO may conduct either type of drop on NVD's, provided they are proficient in that type of drop.

c. Crew Requirements. Any TSOI may instruct these events during the day. A TSO NSI is required to instruct initial AD-3750.

d. Academic/Ground Training. The TSO shall review the ANTTP chapter pertaining to air delivery and receive instruction on Computed Air Release Point (CARP) computations per Air Force Instruction (AFI) 11-231.

AD-3700 1.5 365 B,R,M (NS) A 1 KC-130

Goal. Refine air delivery techniques and navigation procedures to release points in connection with cargo air delivery.

Requirement

Perform TSO duties on a cargo air delivery sortie.

Review route planning and chart preparation procedures emphasizing release point computation, air delivery limitations, drop zone criteria, air delivery checklists, emergency procedures, slow-down procedures, and ingress/egress options.

Plan a route to a drop zone and compute a CDS and an HE CARP.

Conduct an objective area brief to include planned release point, drop zone hazards, IP inbound, slow-down, and egress.

Navigate to a drop zone, relay all time warnings, call a CDS or HE air delivery, and navigate an egress route.

Performance Standard. Must compute and execute a CDS or HE air delivery that lands within drop zone.

Prerequisite. FAM-2100.

External Syllabus Support. Air Delivery Platoon or equivalent, material handling equipment and support personnel, a DZ team to include a corpsman, and a drop zone survey per MCO 3500.20. A PPN-19/SMP-2000 is recommended but not required.

AD-3701 1.5 365 B,R,M (NS) A 1 KC-130

Goal. Introduce air delivery techniques and navigation procedures to release points in connection with low-altitude static-line personnel air delivery.

Requirement

Perform TSO duties on a static-line personnel air delivery sortie.

Review route planning and chart preparation procedures. Emphasize release point computation, air delivery limitations,

drop zone criteria, air delivery checklists, emergency procedures, slow-down procedures, and ingress/egress options.

Plan a route to a drop zone and compute a CARP.

Conduct an objective area brief to include planned release point, drop zone hazards, IP inbound, slow-down, and egress.

Navigate to a drop zone, relay all time warnings, call a static-line personnel air delivery, and navigate an egress route.

Performance Standard. Jumpers must land within drop zone.

Prerequisite. FAM-2100.

External Syllabus Support. Air delivery qualified personnel, a DZ team to include a corpsman, and a drop zone survey per MCO 3500.20. A PPN-19/SMP-2000 is recommended but not required.

AD-3750	1.5	365	B,R,M	NS	A	1 KC-130

Goal. Refine air delivery techniques and navigation procedures to release points in connection with static-line personnel or cargo air delivery utilizing NVD's.

Requirement

Perform TSO duties on a static-line personnel or cargo air delivery sortie utilizing NVD's.

Review route planning and chart preparation procedures emphasizing NS considerations to release point computation, air delivery limitations, drop zone criteria, air delivery checklists and emergency procedures, slow-down procedures, and ingress/egress options.

Plan a route to a drop zone and compute a CARP.

Conduct an objective area brief to include planned release point, drop zone hazards and markings, IP inbound, slow-down, and egress.

(5) Navigate to a drop zone, relay all time warnings, call an air delivery, and navigate an egress route utilizing NVD's.

Performance Standard. Must compute and execute an air delivery that lands within drop zone.

Prerequisite. AD-3700 (if cargo), AD-3701 (if personnel).

External Syllabus Support. Air Delivery Platoon or equivalent, material handling equipment and support personnel as required, a DZ team to include a corpsman, and a drop zone survey per MCO 3500.20. A PPN-19/SMP-2000 is recommended but not required.

3.10 CORE PLUS SKILL PHASE (4000)

3.10.1 General. Upon completion of this phase of training, the TSO will be qualified to plan and execute RADAR Threat Reaction (TR), Air-to-Air Defensive Tactics (DT), long-range Air-to-Air Refueling (AAR), advanced AD (HALO/HAHO and JPADS GPS guided cargo) and Battlefield Illumination (BI).

a. The TSO under instruction shall receive the MAWTS-1 course catalog ASP lecture prior to the appropriate stage of training.

b. The trainee is required to occupy the TSO position in the flight station on all syllabus training flights.

c. All instructors must be proficient in the event to instruct.

d. To fly an event aided without an instructor, the TSO must be NSQ and proficient in the given event.

e. CRM shall be briefed for all flights and/or events.

3.10.2 Threat Reaction (TR)

a. Purpose. To train the TSO in the skills required to operate the KC-130 Aircraft Survivability Equipment (ASE) suite in a tactical scenario in a RADAR surface to air threat environment.

b. General

Aircraft must have an operational ASE suite that supports radio frequency (RF) threat reaction.

Appropriate chaff shall be loaded prior to flight.

Initial events shall be flown in the day.

Appropriate ground threat emitters shall be available.

c. Crew Requirements. Shall be instructed by a WTI.

d. Academic/Ground Training. Review the NFM, KC-130 ANTTP, Classified ANTTP, AFTTP 3-1 Threat Reference Guide. A WTI should administer the KC-130 ASE classes from the MAWTS-1 KC-130 Specific Academic Support Package.

TR-4400	2.0	365	B,R,M	(N)	A/S	1 KC-130

Goal. Refine the planning considerations and in-flight operation of the ASE systems with emphasis on configuration of the system for operations in a RADAR threat environment.

Requirement

Perform TSO duties associated with the operation of the ASE suite in order to counter a RADAR threat.

Plan and configure the ASE suite to counter a RADAR threat.

Refine the understanding of the basic concepts of various chaff and flare load-out configurations, capabilities and limitations of decoy chaff and flare. Refine programming and operation of the ALE-47 CMDS.

Introduce APR-39 operation emphasizing OFP, EID, and threat symbology.

Discuss the AAR-47 capabilities and limitations as it applies to the RADAR threat.

Discuss RADAR threat counter-tactics to include appropriate expendables and maneuvers for a specific threat.

Discuss CRM considerations for operations in a threat environment.

Deploy expendables in response to a RADAR threat indication.

Conduct multiple passes against simulated RADAR threat systems and initiate appropriate maneuvers and countermeasures.

Performance Standard. Must correctly configure and operate the ASE suite, use appropriate terminology, and initiate correct defensive responses to threat indications.

Prerequisite. TR-2400 and TN-2200.

Ordnance. 160 chaff, 140 flares.

External Syllabus Support. An operable EW range allowing chaff dispensing. An EW range with debrief facilities greatly enhance aircrew training and should be used to the maximum extent possible.

3.10.3 Defensive Tactics (DT)

a. Purpose. To attain and maintain the Core Plus Skill of employing Defensive Tactics against an air threat by combining maneuver and use of the ASE suite.

b. General. The DT requirements consist of DT-4410. The following is recommended but not required:

Emphasize DT maneuvering and CRM considerations during DT.

The aircraft should have an operable ASE suite.

c. Crew Requirements. A Pilot DTI or TSOI may instruct this event.

d. Academic/Ground Training. Review the KC-130 ANTTP, Classified ANTTP, and AFTTP 3-1 Threat Reference Guide concerning air-to-air threats. Review the KC-130 ASE, DT, Stress & Performance Limitations and Threat Counter-tactics classes from the MAWTS-1 KC-130 Specific Academic Support Package.

DT-4410	1.0	1095	B,R,M	D	A	1	KC-130

Goal. Familiarize the TSO with the skills and crew coordination required while executing DT against aggressor aircraft.

Requirement

Demonstrate an understanding of KC-130 defensive maneuvers.

Demonstrate an understanding of air-to-air threat.

During DT, demonstrate the proper maneuver calls and crew coordination.

Discuss the use of the ASE suite to counter an air-to-air threat.

Performance Standard. Demonstrate proper crew coordination during DT.

Prerequisite. LAT-2261.

External Syllabus Support. Aggressor aircraft and approved airspace. SUAS authorized for expendables.

3.10.4 Air-to-Air Refueling (AAR)

a. Purpose

To develop the necessary skills to perform the tasks required of the lead TSO and rendezvous controller on a long-range air-to-air refueling mission.

Upon successful completion of this stage of training the TSO should be designated as a Rendezvous Controller by the squadron commanding officer.

b. General

Flights shall be conducted in conjunction with a movement of receiver aircraft in either a ferry, deep air strike profile (fixed wing), or long-range insert profile (rotary wing/tilt rotor) requiring a refueling area commander.

The TSO shall have demonstrated an ability to plan and execute long-range air-to-air refueling missions including ALTRV or other airspace coordination measures.

c. Crew Requirements. Shall be instructed by a Rendezvous Controller.

d. Academic/Ground Training. The TSO should have completed the Central Altitude Reservation Indoctrination CBI and shall receive instruction on Rendezvous Control Procedures prior to this stage.

AAR-4600 3.0 * B (N) A 2 KC-130

Goal. To refine the skills required to assist in planning and leading a long-range, air-to-air refueling mission.

Requirement

Assist the rendezvous controller in planning and coordinating a long-range, air-to-air refueling mission.

Introduce the planning and coordination associated with an ALTRV.

Use appropriate navigation aids to arrive at an ARCP and maintain course on a refueling track.

Performance Standard. Direct aircraft to arrive at the ARCP and assist the rendezvous controller in conducting a successful rendezvous with receiver aircraft.

Prerequisite. AAR-3600, AAR-3650, FAM-2100, (2150~HLL), (2151~LLL).

External Syllabus Support. Fixed wing or helicopter receivers required.

AAR-4601 3.0 1095 B,R,M (N) E A 2 KC-130

Goal. To demonstrate the skills required to plan and execute a long-range, air-to-air refueling mission. Upon successful completion of AAR-4601, the TSO should be designated as a Rendezvous Controller by the squadron commanding officer.

Requirement

Plan and conduct a long-range, air-to-air refueling mission to include receiver fuel requirements, tanker requirements, abort criteria, track location and administrative requirements.

Demonstrate a thorough understanding of ALTRV procedures to include message requirements, coordination, and filing procedures.

Conduct the planning and coordination of an ALTRV or other airspace required to facilitate the long-range movement of receiver aircraft.

Performance Standard. Conduct a successful long-range, air-to-air refueling mission.

Prerequisite. AAR-4600.

External Syllabus Support. Fixed wing or helicopter receivers required.

3.10.5 Air Delivery (AD)

a. Purpose. Demonstrate a thorough understanding of advanced air delivery techniques.

b. Crew Requirements. For AD-4700 and AD-4701, a TSO NSI is required only if the initial sortie is conducted using NVD's and the TSO under instruction is not NSQ. A TSOI who is NSQ may instruct a NSQ TSO on initial AD-4700 and AD-4701 events flown using NVD's. Any TSOI may instruct these events during the day or unaided.

c. Academic/Ground Training. The TSO will review the appropriate KC-130 ANTTP chapters for air delivery and battlefield illumination.

AD-4700 1.0 365 B,R,M (N) A 1 KC-130

Goal. Conduct air delivery of personnel/cargo utilizing high altitude release techniques with emphasis on HARP computations and navigation to release points.

Requirement

Perform TSO duties on a high altitude air delivery sortie.

Review route planning and chart preparation procedures emphasizing high altitude release point computation, air delivery limitations, drop zone criteria, air delivery checklists, emergency procedures, slow-down procedures, and ingress/egress options.

Plan a route to a drop zone and compute a high altitude air delivery of personnel or cargo.

Conduct an objective area brief to include a planned release point, drop zone hazards, IP inbound, slow-down, and egress.

Navigate to a release point, relay all time warnings, call a high altitude air delivery of personnel or cargo, and navigate an egress route.

Discuss physiology considerations appropriate to high altitude air delivery operations.

Performance Standard. Compute and execute a high altitude air delivery that lands within drop zone.

Prerequisite. AD-3701.

External Syllabus Support. High altitude certified personnel or cargo, a DZ team to include a corpsman, an aviation physiologist (if required), and a drop zone survey per MCO 3500.20. A PPN-19/SMP-2000 is recommended but not required.

AD-4701 1.0 365 B,R,M (N) A 1 KC-130

Goal. Introduce air delivery techniques and theory in connection with a JPADS GPS guided cargo air delivery.

Requirement

Perform TSO duties on a JPADS GPS guided cargo air delivery sortie.

Review route planning and computer based programming procedures to determine release point computation, air delivery limitations, drop zone criteria, air delivery checklists and emergency procedures, slow-down procedures, and ingress/egress options.

Plan a route to the optimum release point based upon computer software used to program the GPS guided hardware on the cargo.

Conduct an objective area brief to include a planned release point, drop zone hazards, IP inbound, slow-down, and egress.

Navigate to a release point, relay all time warnings, call an air delivery, and navigate an egress route.

Instruction should be conducted by a WTI.

Performance Standard. Must compute and execute an air delivery that is released within safety criteria.

Prerequisite. AD-3700.

External Syllabus Support. Air Delivery Platoon or equivalent, material handling equipment and support personnel as required, a DZ team to include a corpsman, and a drop zone survey per MCO 3500.20.

3.10.6 Battlefield Illumination (BI)

a. Purpose. To attain and maintain the Mission Plus Skill of Battlefield Illumination (BI). Upon completion of this phase, the TSO will be capable of planning and executing BI.

b. Crew Requirements. Shall be instructed by a TSOI.

c. Academic/Ground Training. Utilize academic courseware as outlined in the MAWTS-1 course catalog and review MAWTS-1 ASPs, NFM, and KC-130 ANTTP.

BI-4710	1.0	730	B,R,M	N	A	1 KC-130

Goal. Instruct the TSO in the skills necessary to perform battlefield illumination.

Requirement

Perform TSO duties on a battlefield illumination sortie.

Review route planning and chart preparation procedures emphasizing release point computation, APF delivery characteristics, orbit and delivery patterns, battlefield illumination checklists, emergency procedures, slow-down procedures, and ingress/egress options.

Direct the aircraft to a target area and compute an APF CARP.

Conduct an objective area brief to include planned release point, illumination patterns, slow-down, and egress.

Navigate to a release point, relay all time warnings, call a release of APFs, and navigate an egress route.

Performance Standard. For initial sortie conduct at least 1 area illumination pattern and 1 point target illumination pattern utilizing a standoff orbit, providing the desired illumination effect on the target.

Prerequisite. FAM-2100.

Ordnance. 15 LUU-2A/B, B/B or LUU-19 flares as required.

External Syllabus Support. SUAS authorized for aircraft parachute flares and illumination.

3.11 INSTRUCTOR TRAINING PHASE (5000)

3.11.1 General. The TSO IUT shall receive the MAWTS-1 ASP Courseware on Student Briefing and Critique, and Student/Instructor Roles prior to beginning this stage of training.

3.11.2 TSO Instructor (TSOI)

a. Purpose. To standardize TSOI procedures. Upon successful completion of all IUT events in this stage, the TSO should be designated as a TSO Instructor by the squadron commanding officer.

b. General

Emphasize standardization and the ability to instruct TSO procedures.

Ability to instruct all phases of flight training shall be evaluated in which the TSO has previously demonstrated proficiency.

c. Crew Requirements. A TSO Assistant NATOPS Instructor (ANI) shall evaluate these flights.

d. Academic/Ground Training. Utilize academic courseware as outlined in the MAWTS-1 course catalog and review MAWTS-1 ASPs, NFM, and KC-130 ANTTP.

e. CRM shall be briefed for all flights and/or events.

TSOI-5100 3.0 * B (N) E A 1 KC-130

Goal. Evaluate and standardize the TSO's instructional techniques on an LRN event.

Requirement. Instruct a TSO on LRN-2160.

Performance Standard. Effectively instruct the skills necessary to complete the appropriate event.

Prerequisite. LRN-2160 and APRB recommendation.

TSOI-5101 3.0 * B (N) E A 1 KC-130

Goal. Evaluate and standardize instructional techniques on an AAR event.

Requirement. Instruct a TSO on an AAR event.

Performance Standard. Effectively instruct the skills necessary to complete the appropriate event.

Prerequisite. AAR-3600, AAR-3650, and APRB recommendation.

External Syllabus Support. Fixed wing, tilt-rotor, or helicopter receivers required.

TSOI-5102 3.0 * B,R (N) E A 1 KC-130

Goal. Evaluate and standardize instructional techniques on a TN, AD, TR, or ALZ event.

Requirement. Instruct a TSO on a TN, AD, TR, or ALZ event.

Performance Standard. Effectively instruct the skills necessary to complete the appropriate event.

Prerequisite. TSOI-5100 and TSOI-5101.

3.11.3 NATOPS Instructor/Assistant NATOPS Instructor (NI/ANI)

a. Purpose. Qualify IUT as a NATOPS Instructor/Assistant NATOPS Instructor (NI/ANI).

b. General. The purpose of this stage is to qualify the IUT as a NATOPS Instructor and emphasize standardization of instruction procedures.

c. Crew Requirements. An Assistant NATOPS Instructor will be evaluated by the Squadron NATOPS Instructor (SNI) or Group NATOPS Evaluator (GNE). The Squadron NATOPS Instructor will be evaluated by the Group NATOPS Evaluator.

d. Ground/Academic Training. The IUT shall be familiar with all applicable OPNAV and NATOPS directives.

NI-5140 3.0 * B,R (N) E A 1 KC-130

Goal. NI/ANI check.

Requirement. Evaluate an Assistant NATOPS Instructor using standardized procedures.

Performance Standard. Per NATOPS and all current flight publications. Completion of NI-5140 meets the requirements for the TSO to be designated an Assistant NATOPS Instructor. At the discretion of the squadron commanding officer, a letter designating the TSO as an ANI shall be placed in the NATOPS jacket.

Prerequisite. TSOI-5102.

3.11.4 Night Systems Instructor (NSI)

a. Purpose. To qualify the TSO as an NSI. Upon successful completion of this stage and MAWTS-1 certification, TSO should be designated as an NSI by the squadron commanding officer.

b. General. A MAWTS-1 instructor shall provide certification for this qualification. Refer to MAWTS-1 Course Catalogue for current prerequisites and requirements.

c. Crew requirements. Refer to the MAWTS-1 KC-130 Course Catalog.

d. Academic/Ground Training. Refer to the MAWTS-1 KC-130 Course Catalog.

NSI-5150 1.5 * B NS E A 1 KC-130

Goal. Evaluate and standardize the NSIUT's instructional techniques on an NS FAM event.

Requirement. Instruct a TSO on an NS FAM event.

Prerequisite. NSQ (2150, 2151), TSOI (5102), proficiency in the appropriate event, and APRB recommendation.

Performance Standard. Effectively instruct the skills necessary to complete the appropriate event.

NSI-5151 1.5 * B NS E A 1 KC-130

Goal. Evaluate and standardize the NSI UT instructional techniques on a NS low level event.

Requirement. Instruct a TSO on a NS low level event.

Performance Standard. Effectively instruct the skills necessary to complete the appropriate event.

Prerequisite. NSI-5150 and TN-2251.

NSI-5152 1.5 * B NS E A 1 KC-130

Goal. Evaluate and standardize NSI UT instructional techniques on an NS AD event.

Requirement. Instruct a TSO on an NS AD event.

Performance Standard. Effectively instruct the skills necessary to complete the appropriate event.

Prerequisite. NSI-5150 and AD-3750.

NSI-5153	1.5	*	B,R	NS	E	A	1 KC-130

Goal. Certification event for designation as a NSI.

Requirement. Demonstrate the ability to instruct TSO's on standardized procedures during an NS event. Completion of NSI-5153 meets the requirements for the TSO to be qualified as a Night Systems Instructor. At the discretion of the squadron commanding officer, a letter designating the TSO as an NSI shall be placed in the NATOPS jacket.

Performance Standard. Instruct the skills necessary to complete the appropriate event.

Prerequisite. NSI-5150, NSI-5151, and NSI-5152.

3.11.5 Weapons Tactics Instructor (WTI)

a. Purpose. To certify the TSOI as a WTI capable of conducting ground and airborne instruction.

b. General. The KC-130 WTI Course is developed and instructed by MAWTS-1. Upon successful completion and MAWTS-1 certification, TSO should be designated as a WTI by the squadron commanding officer.

c. Ground Training. Refer to the MAWTS-1 KC-130 Course Catalog.

d. Flight Training. Refer to the MAWTS-1 KC-130 Course Catalog.

WTI-5999	*	B	Per MAWTS-1 Course Catalog

Goal. Evaluate and certify WTIs.

Requirement. Use standard MAWTS-1 instruction techniques as taught at the MAWTS-1 WTI course. Completion of the WTI course meets the requirements for the TSO to be designated as a WTI. At the discretion of the squadron commanding officer, a letter designating the TSO as a WTI shall be placed in the NATOPS jacket.

Performance Standard. Refer to the MAWTS-1 KC-130 Course Catalog.

Prerequisite. Refer to the MAWTS-1 KC-130 Course Catalog.

3.12 REQUIREMENTS, QUALIFICATIONS, DESIGNATIONS PHASE (RQD) PHASE (6000)

3.12.1 KC-130T NATOPS Evaluation POI

a. NATOPS Evaluators/Instructors shall conduct the NATOPS evaluation in accordance with OPNAVINST 3710.7 Series and other applicable directives, instructions, and orders.

b. 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 TSO completed the sortie. Prior to the Oral Examination, the NATOPS Evaluator shall review the Evaluee's NATOPS Monthly emergency procedures examinations and simulator/cockpit-cabin drills for the previous twelve (12) months and previous NATOPS evaluations. At the discretion of the squadron commanding officer, a letter designating the TSO as NATOPS qualified shall be placed in the NATOPS jacket and APR.

c. NATOPS Evaluees shall complete and have a graded Open Book, Closed Book, and Oral Examination prior to the commencement of the actual NATOPS evaluation event.

d. Crew Resource Management (CRM). A qualified and designated CRM Instructor or CRM Facilitator shall conduct initial and annual CRM

Training per OPNAVINST 1542.7. CRM shall be briefed for all flights and/or events.

NTPS-6010 3.0 365 B,R,M E Open Book NATOPS Exam

Goal. The open book examination shall consist of, but not be limited to the question bank. The purpose of the open book examination portion of the written examination is to evaluate the TSO's knowledge of the appropriate publications and the aircraft.

Performance Standard. Achieve a minimum score of 3.5 on the open book examination.

NTPS-6011 1.0 365 B,R,M E Closed Book NATOPS Exam

Goal. The closed book examination shall be limited to the question bank. The purpose of the closed book examination portion of the written examination is to evaluate the TSO's knowledge of the concerning normal/emergency procedures and aircraft limitations.

Performance Standard. Achieve a minimum score of 3.3 on the closed book examination.

NTPS-6012 1.0 365 B,R,M E Oral NATOPS Examination

Goal. The oral examination shall consist of, but not be limited to the question bank. The instructor/evaluator may draw upon their experience to propose questions of a direct and positive manner and in no way be opinionated to evaluate the TSO's knowledge of the concerning normal/emergency procedures, aircraft limitations, and performance.

Performance Standard. Achieve a minimum grade of qualified on the oral examination.

NTPS-6118 2.0 365 B,R,M (N) E A 1 KC-130

Goal. Annual NATOPS check.

Requirement. The TSO will be tested on all previous instruction, knowledge of emergency procedures, and proper operation of all navigation equipment.

Performance Standards. The TSO will perform all duties, emergency procedures, and properly operate all navigation equipment per NATOPS, OPNAVINST 3710.7, all applicable orders and directives, and squadron and TSO SOPs. At the discretion of the squadron commanding officer, a letter designating the TSO shall be placed in the NATOPS jacket and APR. The tracking code of NTPS-6118 shall be logged.

Prerequisite. FAM-2100. Proficiency in appropriate event for which the TSO is being evaluated.

3.13 ATTAIN AND MAINTAIN MATRIX

KC-130T TSO ATTAIN AND MAINTAIN MATRIX										
T&R DESCRIPTION	ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	PREREQ NOTES	CHAINING	CHAINING NOTES
	BASIC POI		REFRESHER POI		MAINTAIN POI					
	SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #				
CORE SKILL (2000 Phase)										
FAM	FAM	2100R	FAM	2100R	FAM	2100R				
HLL NS FAM	NS	2150R	NS	2150R	NS	2150R	2100		2100	
LLL NS FAM		2151R		2151R		2151R	2150		2150,2100	
LONG RANGE NAV	LRN	2160R	LRN	2160R	LRN	2160R	2100		2100,2150~NS,2151~LLL	
TACNAV	TN	2200R	TN	2200R	TN		2100		2100	
HLL		2250R		2250R			2200,2150		2100,2150,	
LLL		2251R		2251R		2251R	2250,2151		2100,2150,2151	
LAT	LAT	2260R	LAT	2260R	LAT		2200		2100	
LAT		2261R		2261R		2261R	2260		2100	
IR THREAT REACTION	TR	2400R	TR	2400R	TR		2100,2200		2100	
IR THREAT REACTION		2401R		2401R		2401R	2400		2100,2150~NS,2151~LLL	
MISSION SKILLS (3000 Phase)										
IMPROVED ALZ	ALZ	3500	ALZ		ALZ		2100		2100,2150~NS,2151~LLL	
TACTICAL ARRIVALS		3501R		3501R		3501R	3500		2100,2150~NS,2151~LLL	
FW AAR / TR AAR	AAR	3600R	AAR	3600R	AAR	3600R	2100		2100,2150~NS,2151~LLL	
DAY RW AAR		3601R					2100		2100	
NS RW AAR		3650R		3650R		3650R	3601		3601,2100,2150~NS,2151~LLL	
AD	AD	3700R	AD	3700R	AD	3700R	2100		2100,2150~NS,2151~LLL	
AD		3701R		3701R		3701R	2100		2100,2150~NS,2151~LLL	
AD		3750R		3750R		3750R	3700,3701	3700~Cargo 3701~Pers	2100,2150~NS,2151~LLL	3700~Cargo 3701~Pers
CORE PLUS (4000 Phase)										
TR	TR	4400R	TR	4400R	TR	4400R	2400,2200		2100,2150~NS,2151~LLL	
DT	DT	4410R	DT	4410R	DT	4410R	2261		2100	
AR	AR	4600	AR		AR		3600,3650,2100, 2150~NS,2151~LLL		3600,3650,2100, 2150~NS,2151~LLL	
AR		4601R		4601R		4601R	4600		4600	
AD	AD	4700R	AD	4700R	AD	4700R	3701		2100,2150~NS,2151~LLL	
AD		4701R		4701R		4701R	3700		3700,2100,2150~NS,2151~LLL	
BI	BI	4710R	BI	4710R	BI	4710R	3700		2100,2150~NS,2151~LLL	

KC-130T TSO ATTAIN AND MAINTAIN MATRIX										
T&R DESCRIPTION	ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	PREREQ NOTES	CHAINING	CHAINING NOTES
	BASIC POI		REFRESHER POI		MAINTAIN POI					
	SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #				
INSTRUCTOR TRAINING (5000 Phase)										
TSOI	TSOI	5100	TSOI		TSOI		2160	APRB REC	2100,2150~NS,2151~LLL	
TSOI		5101					3600,3650	APRB REC	2100,2150~NS,2151~LLL	
TSOI		5102R		5102R			5100,5101		2100,2150~NS,2151~LLL	
NI	NI	5140R	NI	5140R	NI	5140R	5102		2100	
NSI	NSI	5150	NSI		NSI		2150,2151,5102	MAWTS-1 CC	2100,2150~NS,2151~LLL	
NSI		5151					5150,2251	MAWTS-1 CC	2100,2150~NS,2151~LLL	
NSI		5152					5150,3750	MAWTS-1 CC	2100,2150~NS,2151~LLL	
NSI		5153R		5153R			5150,5151,5152	MAWTS-1 CC	2100,2150~NS,2151~LLL	
WTI	WTI	5999						MAWTS-1 CC		
REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, AND DESIGNATIONS (R,C,Q,D) [6000 Phase]										
NTPS	NTPS	6010R	NTPS	6010R	NTPS	6010R				
NTPS		6011R		6011R		6011R				
NTPS		6012R		6012R		6012R				
NTPS		6118R		6118R		6118R	6010,6011,6012,2100		2100	

3.14 T&R SYLLABUS MATRIX

KC-130T TSO T&R SYLLABUS MATRIX															
T&R EVENT INFORMATION				BASIC	REFRESHER	MAINTAIN	ENV	TYPE	NUM	FLT HRS	EVAL	EXTERNAL SYLLABUS SUPPORT	RANGE	ORD	EVENT CONV
T&R DESCRIPTION	SKILL	EVENT #	RE-FLY												
CORE SKILL (2000 Phase)															
FAM	FAM	2100R	365	X	X	X	(N)	A	1	4.0					2100
HLL NS FAM	NS	2150R	365	X	X	X	NS	A/S	1	3.0					2150
LLL NS FAM	NS	2151R	365	X	X	X	NS	A/S	1	3.0					2151
LONG RANGE NAV	LRN	2160R	365	X	X	X	(N)	A	1	5.0					2160
TACNAV	TN	2200R	*	X	X		D	A/S	1	2.0					2200
HLL	TN	2250R	*	X	X		NS	A/S	1	2.0					2250
LLL	TN	2251R	180	X	X	X	NS	A/S	1	2.0					2251
LAT	LAT	2260R	*	X	X		D	A	1	1.0			LAT		2260
LAT	LAT	2261R	365	X	X	X	D	A	1	1.0			LAT		2261
IR THREAT REACTION	TR	2400R	*	X	X		D	A/S	1	2.0		Smokey SAM team: See event	EXP,EW	120 Flares	2400
IR THREAT REACTION	TR	2401R	365	X	X	X	(N)	A/S	1	2.0		Smokey SAM team: See event	EXP,EW	120 Flares	2401
MISSION SKILLS (3000 Phase)															
IMPROVED ALZ	ALZ	3500	*	X			(N)	A/S	1	1.5		MMT, STS, EAF and/or CFR			3500
TACTICAL ARRIVALS	ALZ	3501R	365	X	X	X	(N)	A/S	1	1.5		MMT, STS, EAF and/or CFR			3501
FW AAR / TR AAR	AAR	3600R	365	X	X	X	(N)	A	1	2.0		FW or TR A/C			3600
DAY RW AAR	AAR	3601R	365	X			D	A	1	2.0		RW Rec A/C			3601
NS RW AAR	AAR	3650R	365	X	X	X	NS	A	1	2.0		RW Rec A/C			3650
AD	AD	3700R	365	X	X	X	(NS)	A	1	1.5		AD Plt: See event			3700
AD	AD	3701R	365	X	X	X	(NS)	A	1	1.5		See event			3701
AD	AD	3750R	365	X	X	X	NS	A	1	1.5		See event			3750
CORE PLUS (4000 Phase)															
TR	TR	4400R	365	X	X	X	(N)	A/S	1	2.0		See event	EXP,EW	160 Chaff 140 Flares	4400
DT	DT	4410R	1095	X	X	X	D	A	1	1.0		Aggressor A/C	EXP,EW	Chaff/Flares	4410
AR	AR	4600	*	X			(N)	A	2	3.0		FW or RW Rec			4600
AR	AR	4601R	1095	X	X	X	(N)	A	2	3.0	X	FW or RW Rec			4601
AD	AD	4700R	365	X	X	X	(N)	A	1	1.0		See event			4700
AD	AD	4701R	365	X	X	X	(N)	A	1	1.0		See event			4701
BI	BI	4710R	730	X	X	X	N	A	1	1.0					4710

KC-130T TSO T&R SYLLABUS MATRIX															
T&R EVENT INFORMATION				BASIC	REFRESHER	MAINTAIN	ENV	TYPE	NUM	FLT HRS	EVAL	EXTERNAL SYLLABUS SUPPORT	RANGE	ORD	EVENT CONV
T&R DESCRIPTION	SKILL	EVENT #	RE-FLY												
INSTRUCTOR TRAINING (5000 Phase)															
TSOI	TSOI	5100	*	X			(N)	A	1	3.0	X				5100
TSOI	TSOI	5101	*	X			(N)	A	1	3.0	X				5101
TSOI	TSOI	5102R	*	X	X		(N)	A	1	3.0	X				5102
NI	NI	5140R	365	X	X		(N)	A	1	3.0	X				5140
NSI	NSI	5150	*	X			NS	A	1	1.5	X				5150
NSI		5151	*	X			NS	A	1	1.5	X				5151
NSI		5152	*	X			NS	A	1	1.5	X				5152
NSI		5153R	*	X	X		NS	A	1	1.5	X				5153
WTI	WTI	5999	*												5999
REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, AND DESIGNATIONS (R,C,Q,D) [6000 Phase]															
NTPS	NTPS	6010R	365	X	X	X		GRND			X				6010
NTPS	NTPS	6011R	365	X	X	X		GRND			X				6011
NTPS	NTPS	6012R	365	X	X	X		GRND			X				6012
NTPS	NTPS	6118R	365	X	X	X	(N)			2.0	X				6018

3.15 SYLLABUS EVALUATION FORMS. Contact MAWTS-1 to receive TSO T&R syllabus evaluation forms.

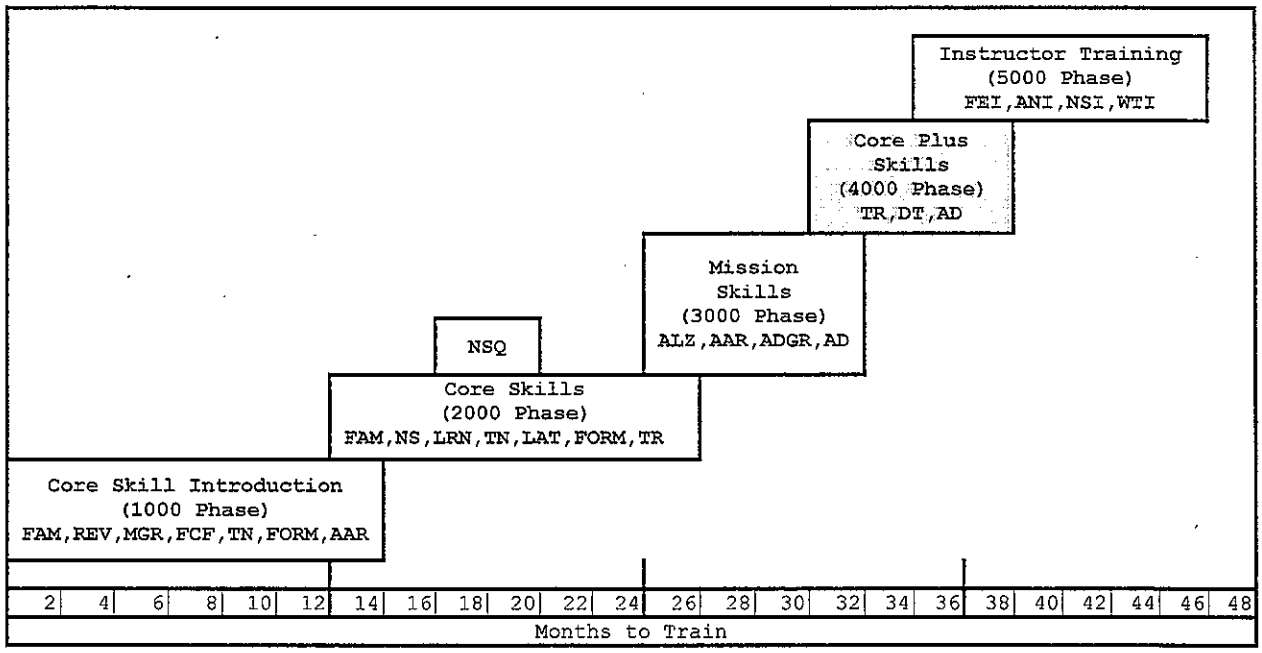
CHAPTER 4

KC-130T FLIGHT ENGINEER (MOS 6276/6242)

KC-130T FLIGHT ENGINEER MOS 6242/6242

4.0 KC-130T FLIGHT ENGINEER 6276/6242 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 warfighting capabilities.

4.1 KC-130T FLIGHT ENGINEER TRAINING PROGRESSION MODEL. The training progression model below provides recommended core skill, qualification, and designation attainment timelines for the average Flight Engineer.



4.2 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.

KC-130T Flight Engineer					
ATTAIN AND MAINTAIN CORE/MISSION/CORE PLUS PROFICIENCY MATRIX BY POI					
ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY	
ASIC POI		REFRESHER POI		MAINTAIN POI	
SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #
FAM	2000R	FAM	2000R	FAM	2000R
NS	2150R	NS	2150R	NS	
	2151R		2151R		2151R
LRN	2160R	LRN	2160R	LRN	2160R
TN	2200R	TN	2200R	TN	
	2250R		2250R		
	2251R		2251R		2251R
LAT	2260R	LAT	2260R	LAT	2260R
FORM	2300R	FORM	2300R	FORM	2300R
TR	2400R	TR	2400R	TR	2400R
ALZ	3500R	ALZ	3500R	ALZ	
	3550R		3550R		3550R
AAR	3600R	AAR	3600R	AAR	3600R
	3601R		3601R		3601R
	3650R		3650R		3650R
ADGR	3660R	ADGR	3660R	ADGR	3660R
AD	3700R	AD	3700R	AD	3700R
TR	4400R	TR	4400R	TR	4400R
DT	4410R	DT	4410R	DT	4410R
AD	4700R	AD	4700R	AD	4700R

4.3 REQUIREMENTS, QUALIFICATION 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 final events. Qualification and designation letters signed by the commanding officer shall be placed in the individual's NATOPS jacket. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.

INDIVIDUAL QUALIFICATION REQUIREMENTS	
Qualification	Event Requirements
NSQ	2150,2151,2250,2251
FE-2	6116
ANNUAL NATOPS	6118
INDIVIDUAL DESIGNATION REQUIREMENTS	
Designation	Event Requirements
ENGINE RUN	6100
FCF	6106
FE-1	6117
FEI	5100,5108
ASSISTANT NATOPS INSTRUCTOR (ANI)	5140
NATOPS INSTRUCTOR/EVALUATOR (NI/GNE)	5141
NSI	5150,5151,5152,5153
WTI	5999

4.4 PROGRAMS OF INSTRUCTION (POI)

4.4.1 Basic (B) POI. The time required to train a KC-130 Flight Engineer to Core Plus will vary depending on the previous Flight Engineer's experience. Basic, Transition, and Series Conversion Flight Engineers shall

fly the entire Basic POI. All initial flying codes will only utilize the aircraft.

WEEKS	COURSE	PERFORMING ACTIVITY
1-12	KC-130 FE Ground Course	HTU NAS/JRB FT WORTH
13-15	KC-130 Flight Simulator	Tactical Squadron
16-52	Core Skill Introduction Training	Tactical Squadron
52-100	Core Skill Training	Tactical Squadron
101-124	Mission Skill Training	Tactical Squadron
125-150	Core Plus Training	Tactical Squadron

4.4.2 Refresher (R) POI. Refresher Flight Engineers represent a varying background and should fly flights coded with an "R". Squadron commanding officers will review the qualifications, previous experience, currency, and demonstrated ability of Refresher Flight Engineers with a view towards waiving and/or combining required flights.

WEEKS	COURSE	PERFORMING ACTIVITY
1-2	KC-130 Flight Simulator	Tactical Squadron
4-6	Core Skill Introduction Training	Tactical Squadron
7-12	Core Skill Training	Tactical Squadron
13-14	Mission Skill Training	Tactical Squadron

4.4.3 Instructor POI

WEEKS	COURSE	PERFORMING ACTIVITY
1-2	Flight Engineer Instructor	Tactical Squadron
1	Night Systems Instructor	MAWTS-1
1-7	Weapons Tactics Instructor	MAWTS-1

4.5 ACADEMIC TRAINING

4.5.1 Academic training shall be conducted for each phase/stage of the syllabus. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

4.5.2 External academic courses of instruction available to complete the syllabus are listed below:

COURSE	ACTIVITY
Naval Aircrew Candidate Course*	NAS Pensacola, FL
Survival, Evasion, Resistance, and Escape (SERE) Course*	NAS Brunswick ME NAS North Island CA
Flight Engineer Organizational Ground* Maintenance Course	HTU NAS JRB FT Worth, TX
NITE lab*	Tactical Squadron
Flight Engineer Initial Qualification*	Tactical Squadron
Flight Engineer Mission Qualification*	Tactical Squadron
Weapons and Tactics Instructor (WTI)*	MAWTS-1 Yuma, AZ
Environmental Survival Courses	Regional/Seasonal Survival Schools
Advanced Airlift Tactics Training Course (AATTC)	AATTC, St. Joseph MO
*External ground training courses of instruction which are required to complete the syllabus.	

4.6 CORE SKILL INTRODUCTION PHASE (1000)

4.6.1 General

a. Upon completion of this phase of training, the Flight Engineer will be NATOPS qualified as a FE-2. The Flight Engineer will be capable of basic aircraft operation to include emergency procedures and crew resource management. The NATOPS check may be conducted any time after completion of the Core Skill Introduction Phase. Commanders shall not designate student Flight Engineers as an FE-2 until satisfactory completion of the entire Core Skill Introduction Phase. Upon the completion of the FE-2 NATOPS check, Flight Engineers shall log the NTPS-6116 tracking code.

b. Crew Resource Management shall be briefed for all flights and events.

4.6.2 The following stages are included in the Core Skill Introduction Phase of training.

Par No.	Stage Name
4.6.3	Familiarization (FAM)
4.6.3	Systems Review (REV)
4.6.4	Intermediate Progress Check (CK)
4.6.5	Maintenance Ground Runs (MGR)
4.6.6	Functional Check Flight (FCF)
4.6.7	Tactical Navigation (TN)
4.6.8	Air to Air Refueling (AAR)

4.6.3 Familiarization (FAM)

a. Purpose. Familiarize the student Flight Engineer with his responsibilities and duties in the correct use of aircraft checklists, crew coordination, normal & emergency procedures, remedial actions for system malfunctions, aircraft limitations, and performance data under various flight conditions.

b. General

One hour of formal classroom training is required for 1 hour of flight simulator training. Refresher Flight Engineers need only to complete syllabus periods annotated with an "R". Aircraft utilization is authorized if the OFT is not available.

Upon completion of simulator training, the student Flight Engineer will be proficient and have demonstrated a thorough working knowledge of all aircraft systems, aircraft checklists, crew coordination, diagnosis of airborne malfunctions, and remedial actions that can be accomplished while airborne.

The flight portion of training deals with actual flight operations. The student Flight Engineer must possess and display a thorough working knowledge of all aircraft systems prior to the start of flight training.

c. Crew Requirements. Shall be instructed/evaluated by a Flight Engineer Instructor.

d. Academic/Ground Training. Prior to SFAM-1100, all Basic, Transition, and Series Conversion Flight Engineers shall complete the ground school course consisting of aircraft systems descriptions, normal and emergency procedures, cockpit resource management, basic weight and balance,

aircraft pre-flight and post-flight procedures, emergency evacuation procedures, bailout procedures, donning and use of all emergency equipment. The familiarization flight stage requires a minimum of 2 hours of ground instruction prior to each flight.

SFAM-1000 2.0 * IPT/CPT/OFT/WST S

Goal. Introduce the Flight Engineers responsibilities/duties, crew coordination, aircraft limitations, and use of expanded checklists.

Requirement. Student Flight Engineer shall perform responsibilities/duties associated with the expanded checklist from the cockpit checklist through the engine run-up checklist with assistance as necessary from the Flight Engineer Instructor.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and calculate aircraft performance data.

Prerequisite. Ground academic training.

SFAM-1001 2.0 * IPT/CPT/OFT/WST S

Goal. Refine the Flight Engineer's responsibilities/duties, crew coordination, and aircraft limitations. Introduce the condensed checklists, referencing the expanded checklists as required.

Requirement. Review previous instructions as necessary. Student Flight Engineer shall perform responsibilities/duties associated with the condensed checklist referencing the expanded checklists as required, from the cockpit checklist to engine run-up with assistance as necessary from the Flight Engineer Instructor.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and calculate aircraft performance data.

Prerequisite. SFAM-1000.

SFAM-1002 2.0 * IPT/CPT/OFT/WST S

Goal. Refine the Flight Engineer's responsibilities/duties, crew coordination, aircraft limitations, and use of the condensed checklists, referencing the expanded checklists as required.

Requirement. Review previous instructions as necessary. Student Flight Engineer shall perform responsibilities/duties associated with the condensed checklist referencing the expanded checklists as required from the cockpit checklist through the engine run-up checklist.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and calculate aircraft performance data.

Prerequisite. SFAM-1001.

SFAM-1003 2.0 * IPT/CPT/OFT/WST S

Goal. Introduce start malfunctions.

Requirement. Review previous instructions as necessary. The Student Flight Engineer shall identify start malfunctions with assistance as necessary from the Flight Engineer Instructor and perform remedial actions IAW the SFAM simulator guide.

Student Flight Engineer shall perform responsibilities/duties associated with the condensed checklist from the cockpit checklist through the engine run-up checklist.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1002.

SFAM-1004 2.0 * IPT/CPT/OFT/WST S

Goal. Expand start malfunctions.

Requirement. Review previous instructions as necessary. The Student Flight Engineer shall identify engine start malfunctions with assistance as necessary from the Flight Engineer Instructor and perform remedial actions IAW the SFAM simulator guide.

Student Flight Engineer shall perform responsibilities/duties associated with the condensed checklist from the cockpit checklist through the engine run-up checklist.

The Student Flight Engineer shall calculate aircraft performance data.

Introduce ground emergency malfunctions.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1003.

SFAM-1005 2.0 * IPT/CPT/OFT/WST S

Goal. Refine start malfunctions, and ground emergency malfunctions. Introduce before takeoff checklist, ABORT procedures and secure checklist.

Requirement. Review previous instructions as necessary. The Student Flight Engineer shall identify start malfunctions, ground emergencies and perform remedial actions IAW the SFAM simulator guide.

Student Flight Engineer shall perform responsibilities/duties associated with the condensed checklist from the cockpit checklist through the before takeoff and secure checklist, referencing the expanded checklists as required.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1004.

SFAM-1006 2.0 * IPT/CPT/OFT/WST S

Goal. Review start malfunctions, before takeoff checklist, ABORT procedures and secure checklist.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall identify start malfunctions, perform remedial actions, identify ground emergencies and demonstrate knowledge of applicable NATOPS procedures.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1005.

SFAM-1007 2.0 * R IPT/CPT/OFT/WST S

Goal. Review start malfunctions, ground emergencies and systems malfunction. Review all condensed checklists from cockpit checklist to engine run-up, ABORT procedures and secure checklist.

Requirement. Review previous instruction as necessary. The Student Flight Engineer shall identify start malfunctions and perform remedial actions, identify ground emergencies and perform remedial actions, identify takeoff emergencies and demonstrate knowledge of applicable NATOPS procedures.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1006.

SFAM-1008 2.0 * R E IPT/CPT/OFT/WST S

Goal. Evaluate the student Flight Engineer's progress in cockpit procedures, start malfunctions, and ground emergency procedures IAW NATOPS and SFAM simulator guide.

Requirement. The Student Flight Engineer shall demonstrate proper execution of responsibilities/duties, and perform all checklists from the cockpit checklist through the secure checklist observing applicable aircraft limitations.

The Student Flight Engineer shall identify start malfunctions, ground emergencies, and takeoff emergencies, perform remedial actions and demonstrate knowledge of applicable NATOPS procedures.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1007.

SFAM-1009 2.0 * R IPT/CPT/OFT/WST S

Goal. Introduce basic flight operations including the climb, descent, approach, before landing and after landing checklist utilizing the expanded and condensed checklist.

Introduce Comm/Nav systems operation and instrument displays, radio discipline and voice procedures.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall demonstrate a basic knowledge of aircraft operations and utilization of condensed and expanded checklists. Student Flight Engineer shall demonstrate a knowledge of the Comm/Nav systems, radio discipline and voice procedures and perform remedial actions and emergency procedures related to aircraft Comm/Nav systems IAW the NATOPS.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/ duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1008.

SFAM-1010 2.0 * R IPT/CPT/OFT/WST S

Goal. Introduce the student Flight Engineer to the aircraft engine systems, malfunction, and emergency procedures.

Introduce emergency engine shutdown, cleanup checklist, NTS Check, cruise engine shutdown and airstart checklist and procedures.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall demonstrate knowledge of aircraft engine systems and perform remedial actions and emergency procedures related to aircraft engine systems IAW the NATOPS.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1009.

SFAM-1011 2.0 * R IPT/CPT/OFT/WST S

Goal. Introduce aircraft propeller systems, malfunctions, and emergency procedures.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall demonstrate knowledge of the aircraft propeller systems and perform remedial actions and emergency procedures related to aircraft propeller systems IAW the NATOPS.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1010.

SFAM-1012 2.0 * R IPT/CPT/OFT/WST S

Goal. Introduce aircraft electrical systems, malfunctions, and emergency procedures.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall demonstrate knowledge of aircraft electrical systems and perform remedial actions, emergency procedures related to aircraft electrical systems IAW the NATOPS.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1011.

SFAM-1013 2.0 * R IPT/CPT/OFT/WST S

Goal. Introduce aircraft bleed air, air conditioning/pressurization, anti-ice/de-ice systems, malfunctions, and emergency procedures.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall demonstrate knowledge of aircraft bleed air, air conditioning and pressurization, anti-ice/de-ice systems and perform remedial actions, emergency procedures related to aircraft bleed air, air conditioning and pressurization, anti-ice/de-ice systems IAW the NATOPS.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1012.

SFAM-1014 2.0 * R IPT/CPT/OFT/WST S

Goal. Introduce aircraft fuel systems, malfunctions, and emergency procedures.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall demonstrate knowledge of aircraft fuel systems and perform remedial actions and emergency procedures related to aircraft fuel systems IAW the NATOPS.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1013.

SFAM-1015 2.0 * R IPT/CPT/OFT/WST S

Goal. Introduce aircraft hydraulic systems, malfunctions, and emergency procedures.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall demonstrate knowledge of aircraft hydraulic systems and perform remedial actions and emergency procedures related to aircraft hydraulic systems IAW the NATOPS.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1014.

SFAM-1016 2.0 * R IPT/CPT/OFT/WST S

Goal. Introduce aircraft air-to-air refueling systems, malfunctions, and emergency procedures.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall demonstrate knowledge of aircraft air-to-air refueling systems and perform remedial actions and emergency procedures related to aircraft air-to-air refueling systems IAW the NATOPS.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1015.

SFAM-1017 2.0 * R IPT/CPT/OFT/WST S

Goal. Refine aircraft air-to-air refueling systems, review aircraft start, ground, and flight malfunctions, remedial actions and emergency procedures.

Requirement. Review previous instruction as necessary. Student Flight Engineer shall demonstrate knowledge of the correct use of aircraft checklists, crew coordination, normal & emergency procedures, remedial actions for system malfunctions, and aircraft performance data.

Student Flight Engineer shall demonstrate knowledge of aircraft air-to-air refueling systems and perform remedial actions and emergency procedures related to aircraft air-to-air refueling systems IAW the NATOPS.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1016.

SFAM-1018 2.0 * R E IPT/CPT/OFT/WST S

Goal. Evaluate simulator progress.

Requirement. The student Flight Engineer shall successfully complete a standard evaluation in the correct use of aircraft checklists, crew coordination, normal & emergency procedures, remedial actions for system malfunctions, and aircraft performance data.

The Student Flight Engineer shall calculate aircraft performance data.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

The Student Flight Engineer shall demonstrate knowledge of NATOPS aircraft limitations and accurately calculate aircraft performance data.

Prerequisite. SFAM-1017.

FAM-1100 4.0 * B,R (N) A 1 KC-130

Goal. Familiarize the student Flight Engineer with correct turnaround inspection and normal flight operations.

Requirement. The student Flight Engineer shall be familiar with correct turnaround inspection, and normal flight operations IAW NA01-75GAA-6-1 and NFM.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. SFAM-1014.

FAM-1101 4.0 * B,R (N) A 1 KC-130

Goal. Familiarize the student Flight Engineer with time management of turnaround inspection, computation of performance data, and normal flight operations.

Requirement. The student Flight Engineer shall be familiar with time management of turnaround inspections, computation of performance data, and normal flight operations IAW NA01-75GAA-6-1 and NA0175GAA-1.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FAM-1100.

FAM-1102 4.0 * B,R (N) A 1 KC-130

Goal. Refine time management of turnaround inspection responsibilities and duties to include performance data computation, Weight and Balance Form 365-4 completion, and normal flight operations during night time conditions.

Requirement. The student Flight Engineer shall be able to coordinate and perform aircraft turnaround inspection per current instructions utilizing proper time management to accomplish all required tasks, including correct performance data computation, accurate Weight and Balance Form 365-4 completion, and normal flight operations during night time conditions.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FAM-1101.

FAM-1103 4.0 * B,R (N) A 1 KC-130

Goal. Familiarize the student Flight Engineer in all weather operations and procedures per NFM.

Requirement. The student Flight Engineer shall be able to perform his duties in all weather conditions.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FAM-1102.

FAM-1104 4.0 * B,R (N) A 1 KC-130

Goal. Familiarize student Flight Engineer with simulated engine out approach, landing and go around procedures.

Requirement. The student Flight Engineer shall be familiar with all normal and emergency procedures related to engine out flight conditions.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FAM-1103.

FAM-1105 4.0 * B,R (N) A 1 KC-130

Goal. Familiarize the student Flight Engineer on extended over water flight operations to include mission planning, range prediction, range control, endurance, and use of engine/fuel logs.

Requirement. The student Flight Engineer shall be able to perform normal procedures and mission planning; and use aircraft performance data (range prediction, range control, & endurance), and engine/fuel logs associated with extended over water flights.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FAM-1104.

4.6.3 Systems Review (REV)

a. Purpose. Review aircraft systems, systems operation, system malfunctions, corrective actions, and troubleshooting per current instructions.

b. General. This portion of training deals with actual flight operations. The student Flight Engineer must possess and display a thorough working knowledge of all aircraft systems prior to the start of the flight training review syllabus. The Flight Engineer Instructor may induce malfunctions and simulated emergencies as practical.

c. Crew Requirements. Shall be instructed/evaluated by a Flight Engineer Instructor.

d. Academic/Ground Training. The systems review stage requires a minimum of 2 hours of ground instruction prior to each flight.

REV-1130 4.0 * B D A 1 KC-130

Goal. Review aircraft engines and APU.

Requirement. The student Flight Engineer shall be knowledgeable on aircraft engine operation and related systems as it pertains to interoperability of the aircraft during flight operations, possible malfunctions, troubleshooting, and corrective actions IAW FRS student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FAM-1105.

REV-1131 4.0 * B D A 1 KC-130

Goal. Review aircraft propeller system.

Requirement. The student Flight Engineer shall be knowledgeable on aircraft propeller system operation as it pertains to interoperability of the aircraft during flight operations, possible malfunctions, troubleshooting, and corrective actions including the blade assemblies, barrel assembly, dome assembly, spinner assembly, anti-icing/deicing assemblies, control assembly, governing system, synchrophasing system, and propeller controls IAW FRS student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. REV-1130.

REV-1132 4.0 * B D A 1 KC-130

Goal. Review the aircraft AC/DC electrical systems.

Requirement. The student Flight Engineer shall be knowledgeable on AC/DC electrical systems operation as it pertains to interoperability of the aircraft during flight operations, possible malfunctions, troubleshooting, and corrective actions including the primary and secondary systems, TR units, the battery system, indicators, and system warning lights IAW FRS student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. REV-1131.

REV-1133 4.0 * B D A 1 KC-130

Goal. Review bleed air systems, anti-icing and deicing, air conditioning, pressurization, and oxygen systems.

Requirement. The student Flight Engineer shall be knowledgeable on the aircraft bleed air systems as it pertains to interoperability of the aircraft during flight operations to include the air turbine motor, associated bleed air valves & ducting, nacelle preheat, bleed air system controls, and isolation valves, wing and empennage anti-icing, propeller anti-icing/de-icing, and NESA system, possible malfunctions, troubleshooting, and corrective actions IAW FRS student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. REV-1132.

REV-1134 4.0 * B D A 1 KC-130

Goal. Review the aircraft fuel systems.

Requirement. The student Flight Engineer shall be knowledgeable on aircraft fuel systems as it pertains to interoperability of the aircraft during flight operations including the refueling/de-fueling system & procedures, tank configuration, water removal, cross feed, fuel transfer & jettison, IFR, single-point refueling systems, fuel system controls, and the fuel indicating systems operation, possible malfunctions, troubleshooting, and corrective actions IAW FRS student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. REV-1133.

REV-1135 4.0 * B D A 1 KC-130

Goal. Review the aircraft utility, booster, and auxiliary hydraulic systems.

Requirement. The student Flight Engineer shall be knowledgeable on the utility, booster, and auxiliary hydraulic systems as it pertains to interoperability of the aircraft during flight operations to include the basic hydraulic system and sub systems possible malfunctions, troubleshooting, and corrective actions IAW FRS student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. REV-1134.

REV-1136 4.0 * B D A 1 KC-130

Goal. Review the aircraft communications, navigation, and flight instrument systems.

Requirement. The student Flight Engineer shall be knowledgeable on communication and aircraft navigation systems operation as it pertains to interoperability of the aircraft during flight operations, voice procedures, possible malfunctions, troubleshooting, and corrective actions IAW FRS student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. REV-1135.

REV-1137 4.0 * B D A 1 KC-130

Goal. Review aircraft air-to-air refueling systems.

Requirement. The student Flight Engineer shall be knowledgeable on aircraft air-to-air refueling systems operation as it pertains to interoperability of the aircraft during flight operations, possible malfunctions, troubleshooting, and corrective actions IAW FRS student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. REV-1136.

4.6.4 Intermediate Progress Evaluation (CK)

a. Purpose. Evaluate the student Flight Engineer's overall progress.

b. General. The student Flight Engineer shall complete all familiarization and review codes prior to CK-1150. Flight portion of the progress evaluation should be conducted on an extended over water flight or an extended overland flight to include a Remain Overnight (RON).

c. Crew requirements. Shall be instructed/evaluated by a Flight Engineer Instructor.

SCK-1150 4.0 * B (N) E S

Goal. Evaluate the student Flight Engineer's overall progress.

Requirement. The student Flight Engineer shall have demonstrated his knowledge of normal and emergency procedures, all aircraft systems operations, possible malfunctions, troubleshooting, and corrective actions IAW FRS student guide and NFM.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. REV-1137.

4.6.5 Maintenance Ground Runs (MGR)

a. Purpose. Familiarize the student Flight Engineer on post maintenance run-up procedures.

b. General. All required FCF's will be conducted upon completion of post maintenance run-ups.

c. Crew Requirements. Shall be instructed/evaluated by a Flight Engineer Instructor.

d. Academic/Ground Training. Each event requires 1 hour of classroom instruction.

SMGR-1160 3.0 * B D S/A IPT/CPT/OFT/WST

Goal. Introduce ground maintenance run-up procedures.

Requirement. The student Flight Engineer shall be familiar with ground maintenance run-up procedures IAW FRS Maintenance Ground run-up and Functional check-flight student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable maintenance ground run-up and NATOPS flight manuals.

Prerequisite. CK-1150.

SMGR-1161 3.0 * B D S/A IPT/CPT/OFT/WST

Goal. Refine ground maintenance run-up procedures.

Requirement. The student Flight Engineer shall be proficient on ground maintenance run-up procedures IAW FRS Maintenance Ground run-up and Functional check-flight student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable maintenance ground run-up and NATOPS flight manuals.

Prerequisite. SMGR-1160.

MGR-1162 4.0 * B,R D A 1 KC-130

Goal. Refine ground maintenance run-up procedures.

Requirement. The student Flight Engineer shall perform a phase ground maintenance run-up from the left seat IAW FRS Maintenance Ground run-up and Functional check-flight student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable maintenance ground run-up and NATOPS flight manuals.

Prerequisite. SMGR-1161.

MGR-1163 4.0 * B D A 1 KC-130

Goal. Refine ground maintenance run-up procedures.

Requirement. The student Flight Engineer shall perform a phase ground maintenance run-up from the left seat IAW FRS Maintenance Ground run-up and Functional check-flight student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable ground run-up and NATOPS flight manuals.

Prerequisite. MGR-1162.

MGR-1164 4.0 * B D A 1 KC-130

Goal. Maintenance ground run-up check.

Requirement. The student Flight Engineer shall be proficient on phase maintenance ground run-up procedures IAW FRS Maintenance Ground run-up and Functional check-flight student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable ground run-up and NATOPS flight manuals.

Prerequisite. MGR-1163.

4.4.6 Functional Check Flights (FCF)

a. Purpose. Familiarize the student Flight Engineer on FCF procedures.

b. General. All required FCF's will be conducted upon completion of post maintenance run-ups.

c. Crew Requirements. Shall be instructed/evaluated by a Flight Engineer Instructor.

d. Academic/Ground Training. Each flight requires 1 hour of classroom instruction.

SFCF-1165 4.0 * B D S/A IPT/CPT/OFT/WST

Goal. Introduce FCF procedures to student Flight Engineer per current instructions.

Requirement. The student Flight Engineer shall be familiar with the FCF procedures IAW FRS Maintenance Ground run-up and Functional check-flight student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. MGR-1164.

SFCF-1166 4.0 * B D S/A IPT/CPT/OFT/WST

Goal. Refine FCF procedures per current instructions.

Requirement. The student Flight Engineer shall perform an "A" profile FCF IAW FRS Maintenance Ground run-up and Functional check-flight student guide and NFM.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. SFCF-1165.

FCF-1167 4.0 * B,R D A 1 KC-130

Goal. Review FCF procedures.

Requirement. The student Flight Engineer shall perform a Functional check-flight IAW FRS Maintenance Ground run-up and Functional check-flight student guide and NFM.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. SFCF-1166.

4.6.7 Tactical Navigation (TN)

a. Purpose. To introduce the student Flight Engineer to low level navigation.

b. Crew Requirements. Shall be instructed/evaluated by a Flight Engineer Instructor.

c. Academic/Ground Training. Low level flight planning and navigation procedures IAW the Tactical Navigation chapter of the KC-130 ANTTP.

TN-1200 2.0 * B D A 1 KC-130

Goal. Low level missions familiarization.

Requirement. The student Flight Engineer shall demonstrate proper procedures during low level missions IAW FRS student guide.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. CK-1150.

External Syllabus Support. Military Training Route.

4.6.8 Air-to-Air Refueling (AAR)

a. Purpose. To introduce the student Flight Engineer to basic Air-to-Air Refueling (AAR) procedures.

b. General. Instructor Flight Engineer will induce emergencies and malfunctions as practical.

c. Crew Requirements. Shall be instructed/evaluated by a Flight Engineer Instructor. The minimum crew as defined by the NFM and ANTTP is required for flight events to include 1 observer per operated refueling pod.

d. Academic/Ground Training. Each flight requires 1 hour of classroom instruction.

ATP-56B NATO Air-to-Air Refueling Manual

In-flight refueling system

KC-130 ANTTP

AAR briefing using the Tactical Pocket Guide (TPG)

AAR-1600	3.0	*	B	(N*)	A	1 KC-130

Goal. Train the student Flight Engineer in Fixed-Wing AAR/ Tilt Rotor AAR (FWAAR/TRAAR) procedures.

Requirement. The student Flight Engineer shall be familiar with fixed-wing/tilt rotor air-to-air refueling procedures including the transfer of fuel to receiver aircraft.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. CK-1150.

External Syllabus Support. Fixed-wing or tilt rotor receiver aircraft and Special Use Airspace (SUAS).

AAR-1601	3.0	*	B	(N*)	A	1 KC-130

Goal. Train the student Flight Engineer in Helicopter AAR (HAAR) procedures.

Requirement. The student Flight Engineer shall be familiar with helicopter refueling procedures including the transfer of fuel to receiver aircraft.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. CK-1150.

External Syllabus Support. Helicopter receiver aircraft and Special Use Airspace (SUAS).

4.7 CORE SKILL PHASE (2000)

4.7.1 General. The focus of Core Skill Phase is to train the Flight Engineer in duties essential to wartime employment. This includes: Night Systems (NS) operations, Long Range Navigation (LRN), Tactical Navigation (TN), Low Altitude Tactics (LAT), Formation (FORM), and IR Threat Reaction (TR).

a. Additional focus will be on crew resource management, aircraft preflight preparation, location and use of emergency equipment, ground and in-flight emergency procedures, aircraft post flight procedures, systems operation, system malfunctions, corrective actions, fault isolation and in-flight fault isolation.

b. Non-NSQ Flight Engineers under instruction shall be instructed by a Flight Engineer NSI when conducting NS Training. Non-NSQ syllabus initial events may be flown with an FEI/ANI/NI provided the instructor is proficient in the event being conducted.

c. The NSQ qualification syllabus consists of NS-2150, NS-2151, TN-2250, TN-2251 and requires 10 hours of total NVD time with at least 5 hours of Low Light Level (LLL) time. The initial 10 hours shall be flown in the aircraft. Flight Engineers successfully completing these requirements may be issued a Night Systems Qualified letter by the squadron commanding officer.

d. Upon completion of each event, the FE-2 will be able to fly subsequent events in this phase without instruction with the exception of NSQ syllabus events.

e. Crew Resource Management shall be briefed for all flights and events.

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

Par No.	Stage Name
4.7.2	Familiarization (FAM)
4.7.3	Night Systems (NS)
4.7.4	Long Range Navigation (LRN)
4.7.5	Tactical Navigation (TN)
4.7.6	Low Altitude Tactics (LAT)
4.7.7	Formation (FORM)
4.7.8	Threat Reaction (TR)

4.7.2 Familiarization (FAM)

a. Purpose. Maintain Flight Engineer proficiency on administrative flights.

b. General. The Flight Engineer under instruction shall fly initial codes with a qualified FEI. Subsequent events may be flown with a qualified crew provided the Flight Engineer meets the pre-requisites.

c. Crew Requirements. Shall be instructed/evaluated by a Flight Engineer Instructor.

d. Academic/Ground Training. Each flight requires 1 hour of classroom instruction.

FAM-2000 2.0 90 B,R,M (N) A/S 1 KC-130

Goal. Maintain proficiency in normal and emergency procedures during day or night flight operations.

Requirement. Review normal and emergency procedures during day flight operations per current instructions.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. NTPS-6116.

4.7.3 Night Systems (NS)

a. Purpose. To train the Flight Engineer in NS. The Flight Engineer will be capable of performing crew duties using NVDs during High Light Level (HLL) and Low Light Level (LLL) conditions.

b. General. The NSQ qualification syllabus consists of NS-2150, NS-2151, TN-2250, TN-2251 and requires 10 hours of total NVD time with at least 5 hours of Low Light Level (LLL) time. The initial 10 hours shall be flown in the aircraft. Flight Engineers successfully completing these requirements may be issued a Night Systems Qualified letter by the squadron commanding officer.

c. Crew Requirements. Shall be instructed by an NSI.

d. Academic/Ground Training. MAWTS-1 KC-130 NVD 1 and 2 Academic Support Package (ASP) courses and NITE lab.

NS-2150 2.0 365 B,R,M NS A 1 KC-130

Goal. Introduce the Flight Engineer to NVD operations under HLL conditions.

Requirement. Preflight shall include a flight station, cargo compartment and exterior lighting demonstration with NVDs.

Instruct the Flight Engineer in the use of NVDs to include normal and emergency procedures at altitude and in the terminal environment. Emphasize NVD considerations, calibration, preflight, and in-flight normal and emergency procedures.

Performance Standard. Demonstrate the ability to properly pre-flight and don NVDs, diagnose NVD emergencies and apply corrective action, understand capabilities and limitations of NVDs under HLL conditions.

Prerequisite. FAM-2000.

NS-2151 2.0 180 B,R,M NS A 1 KC-130

Goal. Introduce Flight Engineer to NVD operations under LLL conditions.

Requirement. Instruct the Flight Engineer in the use of NVDs during LLL conditions to include normal and emergency procedures at altitude and in the terminal environment. Focus on the capabilities and limitations of the NVDs under LLL conditions, preflight, emergency procedures, calibration, preparation and in-flight use. The Flight Engineer will demonstrate knowledge of normal and emergency procedures outlined in the KC-130 ANTTP and NVD specific items in the MAWTS-1 NVD Fixed-Wing manual.

Performance Standard. The Flight Engineer shall demonstrate the ability to properly pre-flight and don NVDs, diagnose NVD emergencies and apply corrective action, understand capabilities and limitations of NVDs under LLL conditions.

Prerequisite. NS-2150.

4.7.4 Long Range Navigation (LRN)

a. Purpose. Review long-range, over water navigation procedures and introduce the Flight Engineer to squadron SOPs concerning deployment operations.

b. General. Fly an extended over water flight and review over water procedures placing emphasis on mission planning, use of aircraft performance data, and engine/fuel logs.

c. Crew Requirements. Shall be instructed by a Flight Engineer Instructor.

d. Academic/Ground Training. Specific fuel panel procedures and NATOPS long range cruise considerations.

LRN-2160 8.0 365 B,R,M (N) A/S 1 KC-130

Goal. Refine extended over water procedures.

Requirement. Fly an extended over water flight and review over-water procedures placing emphasis on mission planning, use of aircraft performance data, and engine/fuel logs.

Performance Standard. Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FAM-2000.

4.7.5 Tactical Navigation (TN)

a. Purpose. Train the Flight Engineer in low level procedures.

b. Crew Requirements. Non-NSQ Flight Engineers under instruction shall be instructed by a Flight Engineer NSI when conducting NS Training. Non-NSQ syllabus initial events shall be flown with an FEI provided the instructor is proficient in the event being conducted.

c. Academic/Ground Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog and review MAWTS-1 ASPs, NFM and KC-130 ANTTP.

TN-2200	2.0	*	B,R	D	A	1 KC-130

Goal. Introduce the Flight Engineer to day low-level navigation procedures.

Requirement. Fly a low level route per KC-130 ANTTP procedures.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FAM-2000.

External Syllabus Support. Approved Military Training Route (MTR) or restricted area.

TN-2250	2.0	*	B,R	NS	A	1 KC-130

Goal. Introduce the Flight Engineer to NVD low-level navigation under HLL.

Requirement. Fly a night low level route per KC-130 ANTTP procedures.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. NS-2150, TN-2200.

External Syllabus Support. Approved Military Training Route (MTR) or restricted area.

TN-2251	2.0	180	B,R,M	NS	A	1 KC-130

Goal. Introduce the Flight Engineer to NVD low-level navigation under LLL.

Requirement. Fly a night low level route per KC-130 ANTTP procedures.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. NS-2151, TN-2250.

External Syllabus Support. Approved Military Training Route (MTR) or restricted area.

4.7.6 Low Altitude Tactics (LAT)

a. Purpose. To attain and maintain the Low Altitude Tactics Core Skill. Upon completion of this stage, the Flight Engineer will be capable of single ship low altitude ingress and egress to mission objective areas during the day.

b. General. General LAT rules of conduct (ROC) are contained in NAVMC 3500.14 and KC-130 specific LAT guidance is contained in the KC-130 ANTTP.

c. Crew Requirements. Shall be instructed by a FEI.

d. Academic/Ground Training. Review the low level navigation and LAT chapters of the KC-130 ANTTP.

LAT-2260 2.0 180 B,R,M D A 1 KC-130

Goal. Introduce and qualify the Flight Engineer, or to maintain proficiency for LAT in the duties associated with low altitude tactics flights in a low to medium ground threat environment.

Requirement. Emphasize cargo compartment preparation, crew briefing, lookout doctrine, scan for threats, crew coordination and FENCEC. This event may include air-to-air refueling, air delivery or any type of air/land delivery.

Performance Standard. Per the applicable NATOPS flight manual and KC-130 ANTTP.

Prerequisite. TN-2200.

External Syllabus Support. LAT approved MTR or restricted area.

4.7.7 Formation (FORM)

a. Purpose. Train the Flight Engineer in formation procedures.

b. Crew Requirements. Non-NSQ Flight Engineers under instruction shall be instructed by a Flight Engineer NSI when conducting NS Training. Non-NSQ syllabus initial events may be flown with a FEI provided the instructor is proficient in the event being conducted.

c. Academic/Ground Training. The instructor and student shall review the KC-130 ANTTP Formation chapter.

FORM-2300 2.0 365 B,R,M (NS) A 2 KC-130

Goal. Proficiency training in formation procedures.

Requirement. Fly a two plane formation flight per the NATOPS and KC-130 ANTTP.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW NATOPS flight manual and KC-130 ANTTP.

Prerequisite. FAM-2000.

4.7.8 Threat Reaction (TR)

a. Purpose. To attain and maintain the Core Skill Threat Reaction (IR) in a low to medium infrared (IR) threat environment. Upon completion of this stage, the Flight Engineer will be capable of flying in a ground infrared threat environment during day or night.

b. General

The Flight Engineer shall be introduced to the KC-130T ASE suite and mission planning considerations for IR SAM defense. The sortie should focus on aircrew immediate action drills when confronted with threat systems from both front and rear aspects under varying mission profiles.

Aircraft must have an operational ASE suite that supports infrared (IR) threat reaction.

Ordnance must be expended on all initial events. Subsequent events can be simulated.

Appropriate ground threat emitters should be available.

c. Crew Requirements. The Flight Engineer under instruction will be instructed by a FEI for all initial codes provided the instructor is proficient in the event.

d. Academic/Ground Training. Review the NFM, KC-130 ANTTP, Classified ANTTP, AFTTP 3-1 Threat Reference Guide. A WTI should administer the KC-130 ASE classes from the MAWTS-1 KC-130 Specific Academic Support Package.

TR-2400	2.0	365	B,R,M	(NS)	A/S	1 KC-130

Goal. Introduce the operational use of ASE and threat counter-tactics against small arms, AAA and IR SAM threat systems.

Requirement. Introduce the ASE counter measures dispensing system setup, missile warning system setup, jamming system, and threat reaction. The Flight Engineer should be exposed to a variety of threat situations of increasing intensity using both the Automatic and Manual modes of the dispensing system. Threat reaction maneuvering should include the take-off, cruise and approach phases of flight.

Performance Standard. The Flight Engineer should be able to correctly operate the aircraft's ASE suite in an IR SAM environment, and react timely and correctly to threat calls. Proper aircrew coordination shall be performed in threat reaction.

Prerequisite. TN-2260.

Ordnance. expendables (required for initial event).

External Syllabus Support. Appropriate counter-measures range, a Smokey SAM crew with a minimum of 5 Smokey SAMs, MWS stimulator team if available.

4.8 MISSION SKILL PHASE (3000)

4.8.1 General. The focus of the Mission Skill Phase is to train the Flight Engineer in the skills required to meet the Marine Corps Tasks (MCTs). These missions include: Assault Landing Zone (ALZ) operations, Air-to-Air Refueling (AAR), Aviation Delivered Ground Refueling (ADGR), Air Delivery (AD).

a. The FE under instruction shall receive the appropriate MAWTS-1 ASP lectures prior to the appropriate stage of training.

b. All instructors must be proficient in the events they instruct.

c. A Flight Engineer NSI is required only if the initial sortie is conducted using NVD's and the FE under instruction is not NSQ. A FEI who is NSQ may instruct a NSQ FE on initial events flown using NVD's. Any FEI may instruct these events during the day or unaided.

d. On completion of the required events contained in this phase, the Flight Engineer shall receive a Flight Engineer 1 NATOPS evaluation. The NATOPS check may be conducted any time after completion of the Mission Skill phase. Commanders shall not designate student Flight Engineers as an FE-1 until satisfactory completion of the entire 2000 and 3000 phases. Upon NATOPS FE-1 check completion, Flight Engineers shall log the NTPS-6117 tracking code and NTPS-6118 annual NATOPS check flight. All NATOPS checks shall be administered by a designated ANI/NI.

e. Crew Resource Management shall be briefed for all flights and events.

4.8.1.1 Stages. The following stages are included in the Mission Skill Phase of training.

Par No.	Stage Name
4.8.2	Assault Landing Zone (ALZ)
4.8.3	Air-to-Air Refueling (AAR)
4.8.4	Aviation Delivered Ground Refueling (ADGR)
4.8.5	Air Delivery (AD)
4.8.6	Low Altitude Tactics (LAT)
4.8.7	Formation (FORM)
4.8.8	Threat Reaction (TR)

4.8.2 Assault Landing Zone (ALZ)

a. Purpose. To attain and maintain the Mission Skill of operating from an ALZ. Upon completion of this stage, the Flight Engineer will be capable of day or night ALZ operations and will be knowledgeable of unimproved ground operation considerations.

b. General. For the purposes of this training syllabus, ALZ operations are defined as terminal area operations from an airfield prepared with either day or night EAF markings as defined in the KC-130 ANTTP. Ideally, MMT will be utilized for terminal control with tactical NAVAIDS available.

Emphasis in the unimproved environment is to introduce operating procedures designed to increase safety and reduce wear on the aircraft, footprint loading techniques, and airfield suitability services within the Marine Corps and DOD.

c. Crew Requirements. A Flight Engineer NSI is required only if the initial sortie is conducted using NVD's and the FE under instruction is not NSQ. A FEI who is NSQ may instruct a NSQ FE on initial events flown using NVD's. Any FEI may instruct these events during the day or unaided.

d. Academic/Ground Training. Review Assault Landing Zone operations in the KC-130 ANTTP. Review MAWTS-1 ASP ALZ courseware. Familiarize the Flight Engineer with ground emergencies in an austere environment and performance data for specific circumstances applicable pubs for unimproved runway operation.

ALZ-3500 2.0 * B,R D A 1 KC-130

Goal. Introduce Day ALZ procedures at improved/unimproved fields.

Requirement. Introduce maximum effort takeoffs and landings at improved/unimproved field IAW KC-130 ANTTP. Review all appropriate performance data.

Performance Standard. The Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual.

Prerequisite. FAM-2000.

External Syllabus Support. Standard USMC ALZ day panel setup utilizing AMP-1, 2 or 3 markings. MMT or MWSS EAF personnel for terminal control, or USAF Special Tactics Team (SST).

ALZ-3550 2.0 365 B,R,M NS A 1 KC-130

Goal. Introduce NVD ALZ procedures.

Requirement. Introduce maximum effort takeoffs and landings in a night time environment IAW KC-130 ANTTP. Review all appropriate performance data.

Performance Standard. The Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. NS-2151 and ALZ-3500.

External Syllabus Support. Standard USMC ALZ IR lighting utilizing AMP-1, 2 or 3 markings. MMT or MWSS EAF personnel for terminal control.

4.8.3 Air-to-Air Refueling (AAR)

a. Purpose. To attain and maintain the Air-to-Air Refueling (AAR) Mission Skill. Upon completion of this stage, the Flight Engineer will be capable of fixed wing, tilt rotor, and helicopter AAR operations in the day or night environment.

b. General. The FE shall conduct normal and emergency procedures associated with air-to-air refueling in addition to crew responsibilities in day, night and NVD procedures.

c. Crew Requirements. A Flight Engineer NSI is required only if the initial sortie is conducted using NVD's and the FE under instruction is not NSQ. A FEI who is NSQ may instruct a NSQ FE on initial events flown using NVD's. Any FEI may instruct these events during the day or unaided.

d. Academic/Ground Training. Review NATOPS Flight Manual, NATOPS flight manual supplements, ATP-56(B), KC-130 ANTTP, and MAWTS-1 Tactical AAR Courseware relating to fixed-wing AR procedures.

AAR-3600 3.0 365 B,R,M (N) A 1 KC-130

Goal. FWAAR/TRAAR procedures.

Requirement. This event can be flown in either day or night conditions with NVDs optional. Conduct single tanker rendezvous procedures and receiver management. Discuss emergency procedures related with AAR. EMCON procedures should be introduced for the completion of the initial syllabus event.

Performance Standard. Satisfactorily demonstrate the ability to maintain fuel state awareness and receiver management. Additionally, demonstrate knowledge of normal and emergency procedures, and CRM outlined in the KC-130 NFM, ANTTP and ATP-56B.

Prerequisite. FAM-2000.

External Syllabus Support. Fixed-wing or tilt rotor receiver aircraft.

AAR-3601 3.0 365 B,R,M D A 1 KC-130

Goal. Day Helicopter AAR (HAAR) procedures.

Requirement. This event shall be flown during the day. Fly a helicopter AAR mission and review normal and emergency helicopter refueling procedures per KC-130 ANTTP and ATP-56(B). Use of EMCON procedures is optional.

Performance Standard. Satisfactorily demonstrate the ability to maintain fuel planning awareness and receiver management. Additionally, demonstrate knowledge of normal and emergency procedures outlined in the NFM, ANTTP, and ATP-56B.

Prerequisite. FAM-2000.

External Syllabus Support. Helicopter receiver aircraft and special use airspace.

AAR-3650 3.0 365 B,R,M NS A 1 KC-130

Goal. NVD HAAR procedures.

Requirement. Conduct single tanker rendezvous procedures and receiver management. Fly a helicopter AAR mission and review normal and emergency helicopter refueling procedures at night per KC-130 ANTTP and ATP-56(B). Use of EMCON procedures is optional.

Performance Standard. Satisfactorily demonstrate the ability to maintain fuel planning awareness and receiver management. Additionally, demonstrate knowledge of normal and emergency procedures outlined in the NFM, ANTTP, and ATP-56B.

Prerequisite. AAR-3601, NS-2150 (HLL), NS-2151 (LLL).

External Syllabus Support. Helicopter receiver aircraft and special use airspace.

4.8.4 Aviation Delivered Ground Refueling (ADGR)

a. Purpose. To attain and maintain the Aviation Delivered Ground Refueling Mission Skill. Upon completion of this stage, the Flight Engineer will be capable of conducting Aviation Delivered Ground Refueling of aircraft and ground vehicles in any environment, day or night.

b. Crew Requirements. A Flight Engineer NSI is required only if the initial sortie is conducted using NVD's and the FE under instruction is not NSQ. A FEI who is NSQ may instruct a NSQ FE on initial events flown using NVD's. Any FEI may instruct these events during the day or unaided.

c. Academic/Ground Training. The Flight Engineer should review the KC-130 ANTTP ADGR chapter and the ADGR class in the MAWTS-1 KC-130 Specific Academic Support Package.

ADGR-3660 0.0 730 B,R,M (N) A 1 KC-130

Goal. Train the FE in Aviation Delivered Ground Refueling operations.

Requirement. Instructor shall demonstrate briefing requirements for ADGR operations. Introduce personnel qualifications, duties, responsibilities and ADGR crew coordination. Introduce ADGR equipment, site weapons and passenger considerations, site configurations and threat considerations. Introduce ADGR fuel planning, site setup, operation, and breakdown procedures, and NVD considerations during ADGR operations (optional). If aircraft cockpit lighting is NVD compatible, (NS) applies.

Performance Standard. Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FAM-2000.

External Syllabus Support. Crash/Fire/Rescue Support. Receiver aircraft or ground vehicle (as appropriate).

4.8.5. Air Delivery (AD)

a. Purpose. To attain and maintain the Mission Skill of AD. Upon completion of this stage, the Flight Engineer will be capable of planning and executing an AD of cargo or static line personnel, day or night.

b. General. Initial AD event shall be actual drop of cargo, personnel or a combination. Subsequent updating of the event can be achieved by conducting a simulated drop.

c. Crew Requirements. A Flight Engineer NSI is required only if the initial sortie is conducted using NVDs and the FE under instruction is not NSQ. A FEI who is NSQ may instruct a NSQ FE on initial events flown using NVDs. Any FEI may instruct these events during the day.

d. Academic/Ground Training. Review KC-130 ANTTP Air Delivery chapter, KC-130 Tactical Pocket Guide, and MAWTS-1 KC-130 Specific Academic Support Package.

AD-3700 2.0 365 B,R,M (NS) A 1 KC-130

Goal. Train and evaluate the Flight Engineer in day or night air delivery procedures.

Requirement. Review personnel, CDS, combination and HE air delivery procedures. The FE shall demonstrate the ability to ingress to an objective area and manage checklists for AD procedures. Emphasis should be placed on CRM and AD procedures.

Performance Standard. Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual and KC-130 ANTTP.

Prerequisite. FAM-2000. NS-2150 (HLL) or 2151 (LLL)

External Syllabus Support. AD unit of any service for cargo rigging and DZ control.

4.9 CORE PLUS SKILL PHASE (4000)

4.9.1 General. Upon completion of this phase of training, the Flight Engineer will be proficient in day and night RADAR Threat Reaction (TR), Air-to-Air Defensive Tactics (DT), advanced AD (combination, MFF).

a. Upon completion of each stage in this phase, the FE-1 shall be able to fly subsequent events in the stage without instruction. For example: Once an FE-1 has completed DT-4411 he is now considered DT complete. The FE-1 is now qualified to fly all events in the DT stage without the aid of an instructor.

b. Crew Resource Management shall be briefed for all flights and events.

4.9.1.1 Stages. The following stages are included in the Mission Skill Phase of training.

Par No.	Stage Name
4.9.2	Threat Reaction (TR)
4.9.3	Defensive Tactics (DT)
4.9.4	Air Delivery (AD)

4.9.2 Threat Reaction (TR)

a. Purpose. To attain and maintain the Core Plus Skill of Threat Reaction (TR) in a RADAR threat environment. Upon completion of this phase, the Flight Engineer will be capable of flying in a ground RADAR threat environment during day or night.

b. General. Aircraft must have an operational ASE suite that supports radio frequency (RF) threat reaction. Appropriate chaff shall be loaded prior to flight. Appropriate ground threat emitters shall be available.

c. Crew Requirements. Flight Engineer conducting training will be instructed by a FEI for all initial codes provided the Instructor is proficient in the event.

d. Academic/Ground Training. Review the NFM, KC-130 ANTTP, Classified ANTTP, AFTTP 3-1 Threat Reference Guide. A WTI should administer the KC-130 ASE classes from the MAWTS-1 KC-130 Specific Academic Support Package.

TR-4400 2.0 365 B,R,M (NS) A/S 1 KC-130

Goal. Introduce surface RADAR threat during a tactical mission profile.

Requirement. Conduct and train in RF Counter tactics. Introduce FE to pertinent ground loading procedures, system setup and operation of ASE systems in flight, emphasis on evasive flight techniques in coordination with ASE employment. Conduct defensive maneuvering against ground RF threat. Emphasize briefing, conduct of flight, and lookout doctrine. IR threat reaction should also be practiced during this event.

Performance Standard. The FE shall demonstrate the ability to properly operate the ASE systems in flight, with an emphasis on evasive flight techniques in coordination with ASE employment. Conduct defensive maneuvering against RADAR acquisition, target tracking and launch sequences.

The FE shall perform responsibilities/duties IAW the NATOPS flight manual and KC-130 ANTTP.

Prerequisite. LAT-2260.

Ordnance. Expendables.

External Syllabus Support. Approved emitter range or restricted area with mobile emitters available. SUAS authorized for expendables.

4.9.3 Defensive Tactics (DT)

a. Purpose. To attain and maintain the Core Plus Skill of employing Defensive Tactics against an air threat by combining maneuver and use of the ASE suite.

b. General. The DT requirements consist of DT-4410. The following is recommended but not required:

Use of the Rear Vision Device (RVD) and ASE suite.

Appropriate chaff and decoy flares loaded prior to flight if available.

c. Crew Requirements. Flight Engineers receiving initial DT training shall be instructed by a DTI.

d. Academic/Ground Training. Review the KC-130 ANTTP, Classified ANTTP, and AFTTP 3-1 Threat Reference Guide concerning air-to-air threats. Review the KC-130 ASE, DT, Stress & Performance Limitations and Threat Counter-tactics classes from the MAWTS-1 KC-130 Specific Academic Support Package.

DT-4410 2.0 365 B,R,M D A 1 KC-130

Goal. Train in defensive maneuvering in relation to an air-to-air threat.

Requirement. The DTI shall brief and introduce DT briefing requirements. Practice defensive maneuvers with emphasis on hard turns, break turns, maneuvering velocity, one-circle/two-circle fights and negating tracking solutions. The flight preparation for this event shall include threat analysis, ASE and expendable integration with regard to the threat, and a detailed aircrew brief on threat reaction throughout all phases of an attack. CRM shall be emphasized to include incorporation of the RVD, aircrew lookout doctrine/scan sectors and threat call template. An event debrief with the aggressor pilot is recommended.

Performance Standard. The FE should demonstrate a working knowledge of A/A RADAR, A/A gun and IR missile defense and one-circle/two-circle considerations.

Prerequisite. LAT-2260, TR-4400.

Ordnance. Expendables.

External Syllabus Support. Aggressor aircraft and approved airspace. SUAS authorized for expendables.

4.9.4 Air Delivery (AD)

a. Purpose. To attain and maintain the Core Plus Skill of Air Delivery (AD). Upon completion of this phase, the Flight Engineer will be capable executing MFF AD.

b. Crew Requirements. Shall be instructed by a FEI or NSI (if NS).

c. Academic/Ground Training. Review KC-130 ANTTP Air Delivery chapter and KC-130 Tactical Pocket Guide. Review MAWTS-1 AD courseware and OPNAV 3710.7_ altitude requirements.

AD-4700	2.0	365	B,R,M	(N)	A	1	KC-130

Goal. Introduce and qualify the Flight Engineer, or to maintain proficiency for the qualified Flight Engineer in the duties associated with high altitude environment air delivery.

Requirement. Plan and execute a Military Free Fall (MFF) AD operation. Perform mission analysis and planning of high altitude air delivery of personnel. Perform at least 1 MFF AD. Review applicable physiology and oxygen requirements for high altitude AD operations. Emphasize crew and jumpmaster coordination.

Performance Standard. Correctly identify the zone and safely perform an AD that lands within the drop zone safety criteria.

Prerequisite. AD-3700.

External Syllabus Support. Military free fall unit, appropriate DZ control and flight surgeon/physiologist if applicable.

4.10 INSTRUCTOR TRAINING PHASE (5000)

4.10.1 General. The purpose of this phase of training is to train qualified Flight Engineers to instruct various levels of instruction.

a. Flight Engineers shall be recommended for instructor training via Aircrew Performance Review Board (APRB). Upon recommendation, the Flight Engineer shall complete appropriate syllabus requirements. Upon completion of syllabus requirements, the commanding officer may designate the Flight Engineer as an instructor.

b. Standardization will be emphasized throughout instructor training.

c. Crew Resource Management shall be briefed for all flights and events.

4.10.1.1 Stages. The following stages are included in the Instructor Training Phase.

Par No.	Stage Name
4.10.2	Flight Engineer Instructor (FEI)
4.10.3	NATOPS Instructor/Assistant NATOPS Instructor (NI/ANI)
4.10.4	Night Systems Instructor (NSI)
4.10.5	Weapons and Tactics Instructor (WTI)

4.10.2 Flight Engineer Instructor (FEI)

a. Purpose. To develop qualified Flight Engineer Instructors (FEI) using a standardized instructor training program. This syllabus is designed to prepare Flight Engineer to instruct the majority of events within the Core Skill Introduction, Core Skill, Mission Skill, and Mission Plus Skill Phases. This portion of the syllabus shall be used by VMGR squadrons to assist in instructor standardization.

b. General

Emphasize standardization and the ability of the Flight Engineer to instruct normal and emergency procedures per the NATOPS Flight Manual.

1000 flight hours are required as a qualified Flight Engineer to begin this instructor stage.

Upon successful completion of FEI-5107, the Flight Engineer shall be evaluated in flight for qualification (FEI-5108) to receive the designation as an FEI.

c. Crew Requirements. Shall be instructed by an ANI.

SFEI-5100 4.0 * B D E S CPT/OFT

Goal. Familiarize the Instructor Under Training (IUT) in the proper operation of the device trainers.

Requirement. Instruct IUT on proper set-up and safe operation of device trainer.

Performance Standard. IUT Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual.

Prerequisite. NTPS-6117 and NTPS-6118.

SFEI-5101 4.0 * B D E S CPT/OFT

Goal. Refine device operation.

Requirement. Review SFEI-5100; IUT will demonstrate proper device operation per current instruction.

Performance Standard. IUT Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual.

Prerequisite. SFEI-5100.

SFEI-5102 4.0 * B D E S CPT/OFT

Goal. Refine device operation and instructional techniques.

Requirement. Review SFEI-5101; combine device operations with instructional techniques. The IUT shall demonstrate the ability to correct student deficiencies and display appropriate subject matter expertise.

Performance Standard. IUT Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual.

Prerequisite. SFEI-5101.

SFEI-5103 4.0 * B D E S CPT/OFT

Goal. Refine device operation and instructional techniques.

Requirement. Review SFEI-5102. The IUT shall demonstrate the ability to correct student deficiencies and display appropriate subject matter expertise.

Performance Standard. IUT Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual.

Prerequisite. SFEI-5102

SFEI-5104 4.0 * B D E S CPT/OFT

Goal. Qualification to operate the device trainer effectively.

Requirement. IUT must demonstrate proper device operation combining instructional technique.

Performance Standard. IUT Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual.

Prerequisite. SFEI-5103.

FEI-5105 4.0 * B (N) E A 1 KC-130

Goal. Refinement of IUT aircraft instructional techniques.

Requirement. IUT must demonstrate proper instructional technique. The IUT shall demonstrate the ability to correct student deficiencies and display appropriate subject matter expertise.

Performance Standard. IUT Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual.

Prerequisite. SFEI-5104.

FEI-5106 4.0 * B (N) E A 1 KC-130

Goal. Refinement of IUT aircraft instructional techniques.

Requirement. IUT must demonstrate proper instructional technique. The IUT shall demonstrate the ability to correct student deficiencies and display appropriate subject matter expertise.

Performance Standard. IUT Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual.

Prerequisite. FEI-5105.

FEI-5107 4.0 * B (N) E A 1 KC-130

Goal. Refinement of IUT aircraft instructional techniques.

Requirement. IUT must demonstrate proper instructional technique. The IUT shall demonstrate the ability to correct student deficiencies and display appropriate subject matter expertise.

Performance Standard. IUT Flight Engineer shall perform responsibilities/duties IAW applicable NATOPS flight manual.

Prerequisite. FEI-5106.

FEI-5108 4.0 * B,R (N) E A 1 KC-130

Goal. Flight Engineer Instructor Designation.

Requirement. This event shall be flown in conjunction with either an AAR, AD, TN, ALZ, ADGR, or combination mission event with the IUT

instructing a Flight Engineer under the supervision of a NATOPS Instructor. The IUT shall demonstrate the ability to correct student deficiencies and display appropriate subject matter expertise. Upon completion of this event, the IUT may be designated a FEI by the squadron commanding officer.

Performance Standard. The IUT shall demonstrate the ability to correct student deficiencies and display appropriate subject matter expertise. Flight Engineer under instruction shall perform responsibilities/duties IAW NFM, KC-130 ANTTP, 3710.7_, 4790.2_ and associated MIMS.

Prerequisite. FEI-5107.

4.10.3 NATOPS Instructor/Assistant NATOPS Instructor (NI/ANI)

a. Purpose. Qualify IUT as a NATOPS Instructor/Assistant NATOPS Instructor (NI/ANI).

b. General. The purpose of this stage is to qualify the IUT as a NATOPS Instructor. The Flight Engineer IUT shall have 1500 flight hours as a qualified Flight Engineer. The NE/NI/ANI primarily conducts annual NATOPS evaluations. The NE/NI/ANI IUT shall be instructed on proper check-ride preparation, in-flight supervision of the aircraft, and post-flight administrative requirements. Upon completion of the ANI syllabus, the Flight Engineer may be designated an ANI or NI by the squadron commanding officer or designated the NATOPS Evaluator (GNE) by the group commanding officer.

c. Crew Requirements. An ANI IUT (NI-5140) shall be instructed by the NI, NE, or Model Manager. A NI IUT (NI-5140) shall be instructed by the NE or Model Manager. A NE IUT (NI-5141) shall be instructed by the Model Manager.

d. Academic/Ground Training. The IUT shall be familiar with all applicable OPNAV and NATOPS directives, with an emphasis on NATOPS normal and emergency procedures.

NI-5140	3.0	365	B,R,M	(N)	E	A	1 KC-130

Goal. NI/ANI training and designation.

Requirement. The NATOPS Instructor/Evaluator will evaluate Flight Engineer per NATOPS procedures. RON flight is preferred. Should be either AAR, AD, TN, ALZ, ADGR, or combination mission.

Performance Standard. The Flight Engineer IUT shall perform responsibilities/duties IAW the NATOPS flight manual, KC-130 ANTTP, 3710.7_, 4790.2_ and associated MIMS.

Prerequisite. NSQ (NS-2150, NS-2151) and FEI-5108, 1500 flight hours as a qualified Flight Engineer.

NI-5141	3.0	365	B,R,M	(N)	E	A	1 KC-130

Goal. NATOPS Evaluator designation.

Requirement. The Model Manager will evaluate Flight Engineer per NATOPS procedures. RON flight is preferred. Should be either AAR, AD, TN, ALZ, ADGR, or combination mission.

Performance Standard. Flight Engineer IUT shall perform responsibilities/duties IAW the NATOPS flight manual, KC-130 ANTTP, 3710.7_, 4790.2_ and associated MIMS.

Prerequisite. NI-5140.

4.10.4 Night Systems Instructor (NSI)

a. Purpose. To certify a KC-130T Flight Engineer as an instructor capable of safely conducting ground and airborne instruction of the KC-130 Night Systems syllabus.

b. General. Refer to NAVMC 3500.14, MCO 3500.109 and the MAWTS-1 course catalog. The build-up phase may be developed and supervised by the Squadron NSI. Upon certification by MAWTS-1, the NSI may be designated by the squadron commanding officer.

c. Crew requirements. Refer to the MAWTS-1 KC-130 Course Catalog.

d. Academic/Ground Training. Refer to the MAWTS-1 KC-130 Course Catalog.

NSI-5150	2.0	*	B,R	NS	E	A	1 KC-130

Requirement. Reference the MAWTS-1 CC, KC-130 NSI POI.

NSI-5151	2.0	*	B,R	NS	E	A	1 KC-130

Requirement. Reference the MAWTS-1 CC, KC-130 NSI POI.

NSI-5152	2.0	*	B,R	NS	E	A	2 KC-130

Requirement. Reference the MAWTS-1 CC, KC-130 NSI POI.

NSI-5153	2.0	*	B,R	NS	E	A	1 KC-130

Requirement. Reference the MAWTS-1 CC, KC-130 NSI POI.

4.10.5 Weapons and Tactics Instructor (WTI)

a. Purpose. Develop highly qualified Flight Engineers into effective unit tactics instructors and expose them to current Marine Corps tactical doctrine. Additionally, this stage is designed to increase knowledge and experience of the capabilities and associated tasks of the KC-130.

b. General. Tactics and techniques will be taught per the KC-130 ANTTP and the MAWTS-1 supplements. Only MAWTS-1 instructors shall instruct/qualify flights in this stage. Qualification shall only be achieved as shown in the WTI Course Catalog. Upon certification by MAWTS-1, the WTI may be designated by the squadron commanding officer.

c. Crew requirements. Refer to the MAWTS-1 WTI Course Catalog.

d. Academic/Ground Training. Refer to the MAWTS-1 WTI Course Catalog.

WTI-5999			E	A	KC-130

Requirement. Reference the MAWTS-1 KC-130 Course Catalog.

4.11 REQUIREMENTS, QUALIFICATIONS, DESIGNATIONS (RQD) PHASE (6000)

4.11.1 General. To provide a vehicle for tracking codes associated with certifications, qualifications and designations. E-coded sorties are evaluation sorties. Once the flight to attain the qualification/designation is complete, a letter from the squadron commanding officer awarding the qualification/designation shall be placed in the NATOPS jacket before that qualification/designation can be utilized.

4.11.2 Engine Run Designation

a. Purpose. Engine Run designation.

b. General. Designate the Flight Engineer in engine run procedures. This stage does not require flight time, but does require the use of a KC-130 aircraft for the indicated time.

c. Crew Requirements. RQD-6100 shall be instructed/evaluated by a Flight Engineer ANI.

d. Academic/Ground Training. IAW NATOPS flight manual, 3710.7_ and local course rules.

RQD-6100	1.0	*	B,R	(N)	E	A	1 KC-130

Goal. Evaluate Flight Engineer on engine run procedures.

Requirement. A Flight Engineer ANI will evaluate the Flight Engineer IUT high/low power engine run procedures.

Performance Standard. Qualified per MIMS, NATOPS flight manual, and local course rules.

Prerequisite. NTPS-6116.

4.11.3 Post Maintenance Functional Check Flight (FCF)

a. Purpose. Functional Check Flight designation.

b. General. Within this stage of training the Flight Engineer will fly a functional check flight on applicable flight profiles and associated checks IAW check flight conditions, to include a review of normal and emergency procedures during an A, B, C, or D FCF profile. Ensure proficiency in functional check flight procedures.

c. Crew Requirements. RQD-6100 shall be instructed/evaluated by a Flight Engineer ANI.

d. Academic/Ground Training. NFM FCF Procedures.

FCF-6106	2.0	365	B,R,M	D		A	1 KC-130

Goal. Qualify and maintain proficiency for Flight Engineers in functional check flight procedures.

Requirement. Conduct an engine run and flight phase inspection upon completion of post maintenance discrepancies. The flight shall include the shutdown and air-start of at least one engine.

Performance Standard. Satisfactorily execute procedures per the NFM, OPNAVINST 3710.7_, and OPNAVINST 4790.2 .

Prerequisite. NTPS-6116.

4.11.4 KC-130T NATOPS Evaluation POI

a. Purpose. To evaluate the Flight Engineer's knowledge of aircraft systems, performance limitations, emergency procedures, and flight and ground operations.

b. General. NATOPS Instructors shall conduct the NATOPS evaluation in accordance with OPNAVINST 3710.7 series and other applicable directives, instructions, and orders.

The NATOPS Instructor 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 Flight Engineer completed the sortie. Prior to the oral examination, the NATOPS Instructor shall review the NATOPS monthly emergency procedures examinations for the previous twelve (12) months and previous NATOPS evaluations. At the discretion of the squadron commanding

officer, a letter designating the Flight Engineer as NATOPS qualified shall be placed in the NATOPS jacket.

NATOPS Evaluees shall complete and have a graded open book, closed book, and oral examination prior to the commencement of the actual NATOPS evaluation event.

The Flight Engineer under instruction shall be designated the appropriate level of qualification. A FE-2 is considered systems qualified but requires supervision by a Flight Engineer Instructor until successful completion of applicable phase of training.

Once the FE-1 has successfully completed NTPS-6117, he should also log the NTPS-6118 code. Annual FE-1 NATOPS evaluations thereafter only require the logging of the NTPS-6118 code.

c. Crew Requirements. Shall be instructed/evaluated by a Flight Engineer Assistant NATOPS Instructor.

NTPS-6010 3.0 365 B,R,M E Open Book NATOPS Examination

Goal. The open book examination shall consist of, but not be limited to the question bank. The purpose of the open book examination is to evaluate the Flight Engineer's knowledge of the appropriate publications and the aircraft.

Performance Standard. Achieve a minimum score of 3.5 on the open book examination.

NTPS-6011 1.0 365 B,R,M E Closed Book NATOPS Examination

Goal. The purpose of the closed book examination is to evaluate the Flight Engineer's knowledge of the concerning normal/emergency procedures and aircraft limitations.

Performance Standard. Achieve a minimum score of 3.3 on the closed book examination.

NTPS-6012 3.0 365 B,R,M E Oral NATOPS Examination

Goal. The oral examination shall consist of, but not be limited to the question bank. The instructor may draw upon their experience to propose questions of a direct and positive manner and in no way be opinionated to evaluate the Flight Engineer's knowledge of the concerning normal/emergency procedures, aircraft limitations, and performance.

Performance Standard. Achieve a minimum grade of qualified on the oral examination.

NTPS-6116 4.0 365 B,R,M (N) E A 1 KC-130

Goal. FE-2 NATOPS evaluation.

Requirement. A NATOPS Instructor will evaluate the student Flight Engineer per NATOPS. Remain overnight (RON) flight is preferred.

Performance Standard. Student Flight Engineer shall perform responsibilities/duties IAW the NATOPS flight manual, 3710.7_, 4790.2_ and associated MIMS.

Prerequisite. NTPS-6010, NTPS-6011, NTPS-6012, Core Skill Introduction Phase complete.

NTPS-6117 4.0 * B,R (N) E A 1 KC-130

Goal. FE-1 NATOPS initial evaluation.

Requirement. A NATOPS Instructor will evaluate the Flight Engineer per NATOPS. Remain overnight (RON) flight is preferred. The NATOPS evaluation should be either an AAR, AD, TN, ALZ, ADGR, or combination mission. RON flight is preferred.

Performance Standard. Flight Engineer under instruction shall perform responsibilities/duties IAW the NATOPS flight manual, KC-130 ANTTP, 3710.7_, 4790.2_ and associated MIMS.

Prerequisite. NTPS-6010, NTPS-6011, NTPS-6012, NTPS-6116, Core Skill and Mission Skill Phase complete.

NTPS-6118 4.0 365 B,R,M (N) E A 1 KC-130

Goal. Annual FE-1 NATOPS evaluation.

Requirement. A NATOPS Instructor will evaluate the Flight Engineer per NATOPS. RON flight is preferred. The NATOPS evaluation should be either an AAR, AD, TN, ALZ, ADGR, or combination mission.

Performance Standard. Flight Engineer under evaluation shall perform responsibilities/duties IAW the NATOPS flight manual, KC-130 ANTTP, 3710.7_, 4790.2_ and associated MIMS.

Prerequisite. NTPS-6010, NTPS-6011, NTPS-6012, NTPS-6116, NTPS-6117.

4.12 ATTAIN AND MAINTAIN MATRIX (2000-6000 PHASE)

KC-130T FLIGHT ENGINEER ATTAIN AND MAINTAIN MATRIX (2000-6000)												
SKILL	T&R EVENT INFORMATION				ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	CHAINING
	T&R DESCRITION	STAGE	EVENT #	RE-FLY	BASIC POI		REF POI		MAINTAIN POI			
					STAGE	EVENT #	STAGE	EVENT #	STAGE	EVENT #		
CORE SKILLS (2000 Phase)												
FAM	FAM	FAM	2000R	90	FAM	2000R	FAM	2000R	FAM	2000R	6116	
NS	HLL NS FAM	NS	2150R	365	NS	2150R	NS	2150R	NS		2000	2000
	LLL NS FAM	NS	2151R	180		2151R		2151R		2151R	2150	2150,2000
LRN	LONG RANGE NAV	LRN	2160R	365	LRN	2160R	LRN	2160R	LRN	2160R	2000	2000
TN	TACNAV	TN	2200R	*	TN	2200R	TN	2200R	TN		2000	2000
	HLL TACNAV	TN	2250R	*		2250R		2250R			2150,2200	2000,2150
	LLL TACNAV	TN	2251R	180		2251R		2251R		2251R	2151,2250	2200,2250,2151,2150,2000
LAT	LAT	LAT	2260R	180	LAT	2260R	LAT	2260R	LAT	2260R	2200	2000
FORM	FORM	FORM	2300R	365	FORM	2300R	FORM	2300R	FORM	2300R	2000	2000
TR	IR THREAT REACTION	TR	2400R	365	TR	2400R	TR	2400R	TR	2400R	2260	2000
MISSION SKILLS (3000 Phase)												
ALZ	DAY ALZ	ALZ	3500R	*	ALZ	3500R	ALZ	3500R	ALZ		2000	2000
	NS ALZ	ALZ	3550R	365		3550R		3550R		3550R	2151,3500	2000,2150,2151,3500
AAR	FWAAR	AAR	3600R	365	AAR	3600R	AAR	3600R	AAR	3600R	2000	2000
	DAY HAAR	AAR	3601R	365		3601R		3601R		3601R	2000	2000
	NVD HAAR	AAR	3650R	365		3650R		3650R		3650R	3601,2150~NS,2151~LLL	2000,2150~NS,2151~LLL,3601
ADGR	ADGR	ADGR	3660R	730	ADGR	3660R	ADGR	3660R	ADGR	3660R	2000	2000,2150~NS,2151~LLL
AD	AD	AD	3700R	365	AD	3700R	AD	3700R	AD	3700R	2000,2150~NS,2151~LLL	2000,2150~HLL,2151~LLL
CORE PLUS (4000 Phase)												
TR	IR THREAT REACTION	TR	4400R	365	TR	4400R	TR	4400R	TR	4400R	2260	2000
DEFTAC	DEFTAC	DT	4410R	365	DT	4410R	DT	4410R	DT	4410R	2260,4400	2000,2260
AD	AD MFF	AD	4700R	365	AD	4700R	AD	4700R	AD	4700R	3700	2000,2150~NS,2151~LLL

KC-130T FLIGHT ENGINEER ATTAIN AND MAINTAIN MATRIX (2000-6000)												
SKILL	T&R EVENT INFORMATION				ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	CHAINING
	T&R DESCRITION	STAGE	EVENT #	RE-FLY	BASIC POI		REF POI		MAINTAIN POI			
					STAGE	EVENT #	STAGE	EVENT #	STAGE	EVENT #		
INSTRUCTOR TRAINING (5000 Phase)												
FEI	INTRO SIM OPS	SFEI	5100	*	FEI	5100	FEI		FEI		6117,6118	
	PRACTICE SIM OPS	SFEI	5101	*		5101					5100	
	PRACTICE SIM OPS	SFEI	5102	*		5102					5101	
	REVIEW SIM OPS	SFEI	5103	*		5103					5102	
	SIM EVAL	SFEI	5104	*		5104					5103	
	INTRO IUT	FEI	5105	*		5105					5104	
	PRACTICE IUT	FEI	5106	*		5106					5105	
	REVIEW IUT	FEI	5107	*		5107					5106	
	FEI EVAL	FEI	5108R			5108R		5108R			5107	
NI	ANI	NI	5140R	365	NI	5140R	NI	5140R	NI	5140R	2150~NS, 2151~LLL,5108	2000
	NI	NI	5141R	365		5141R		5141R		5141R	5140	2000
NSI	NS FAM	NSI	5150R	*	NSI	5150R	NSI	5150R	NSI		MAWTS-1 CC	2000,2150~NS,2151~LLL
	NS LLL	NSI	5151R	*		5151R		5151R			MAWTS-1 CC	2000,2150~NS,2151~LLL
	NS AD	NSI	5152R	*		5152R		5152R			MAWTS-1 CC	2000,2150~NS,2151~LLL
	NSI EVAL	NSI	5153R	*		5153R		5153R			MAWTS-1 CC	2000,2150~NS,2151~LLL
WTI	WTI	WTI	5999	*	WTI	5900	WTI		WTI		MAWTS-1 CC	
REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, AND DESIGANATIONS (R,C,Q,D) [6000 Phase]												
RQD	HIGH/LOW PWR R/U	RQD	6100	*	RQD	6100	RQD		RQD		6116	
FCF	FCF CK	FCF	6106R	365	FCF	6106R	FCF	6106R	FCF	6106R	6116	2000
NTPS	NATOPS OPEN BOOK	NTPS	6010R	365	NTPS	6010R	NTPS	6010R	NTPS	6010R		
	NATOPS CLOSED BOOK	NTPS	6011R	365		6011R		6011R		6011R		
	NATOPS ORAL EXAM	NTPS	6012R	365		6012R		6012R		6012R		
	FE-2 EVAL	NTPS	6116R	365		6116R		6116R		6116R	6010,6011,6012	
	FE-1 EVAL	NTPS	6117R	*		6117R		6117R			6010,6011 6012,6116	2000,6116
	ANNUAL NATOPS EVAL	NTPS	6118R	365		6118R		6118R		6118R	6010,6011,6012,6116,6117	2000,6116,6117

4.13 T&R SYLLABUS MATRIX (1000 PAHSE)

KC-130T FLIGHT ENGINEER CORE SKILL INTRODUCTION (1000 PHASE)														
STAGE	EVENT NUMBER	T&R DESCRIPTION	# FLTS	FLT TIME	# SIMS	SIM TIME	REFLY	POI	EVAL	TYPE	NUM A/C	COND	PREREQ	EVENT CONV
FAMILIARIZATION (FAM)														
SFAM	1000	INTRO				2.0	*	B		S				
SFAM	1001	INTRO				2.0	*	B		S			1000	1000
SFAM	1002	INTRO				2.0	*	B		S			1001	1001
SFAM	1003	START MALF				2.0	*	B		S			1002	1002
SFAM	1004	START MALF				2.0	*	B	E	S			1003	1002
SFAM	1005	START MALF/ABORT				2.0	*	B		S			1004	1003
SFAM	1006	START MALF/ABORT				2.0	*	B		S			1005	1003
SFAM	1007	REV				2.0	*	B,R		S			1006	
SFAM	1008	PERF CHECK				2.0	*	B,R		S			1007	1004
SFAM	1009	COMM/NAV				2.0	*	B,R		S			1008	1012
SFAM	1010	ENG SYS				2.0	*	B,R		S			1009	1005
SFAM	1011	PROP SYS				2.0	*	B,R		S			1010	1006
SFAM	1012	ELEC SYS				2.0	*	B,R		S			1011	1007
SFAM	1013	BLEED AIR COND SYS				2.0	*	B,R		S			1012	1008
SFAM	1014	FUEL SYS				2.0	*	B,R		S			1013	1009
SFAM	1015	HYD SYS				2.0	*	B,R		S			1014	1010
SFAM	1016	AAR SYS				2.0	*	B,R		S			1015	1013
SFAM	1017	REFINE AAR				2.0	*	B,R		S			1016	
SFAM	1018	SIM EVAL				2.0	*	B,R	E	S			1017	1014
FAM	1100	TURN AROUND		4.0			*	B,R		A	1	(N)	1014	1100
FAM	1101	TOLD		4.0			*	B,R		A	1	(N)	1100	1101
FAM	1102	W&B		4.0			*	B,R		A	1	(N)	1101	1102
FAM	1103	AW OPS		4.0			*	B,R		A	1	(N)	1102	1103
FAM	1104	ENG OUT		4.0			*	B,R		A	1	(N)	1103	1104
FAM	1105	OW OPS		4.0			*	B,R		A	1	(N)	1104	1105
FAM TOTAL			6	24.0	19	38.0								
SYSTEMS REVIEW (REV)														
REV	1130	ENG APU		4.0			*	B		A	1	D	1105	1130/31
REV	1131	PROPS		4.0			*	B		A	1	D	1130	1132
REV	1132	AC/DC ELEC		4.0			*	B		A	1	D	1131	1133/34
REV	1133	PNEUMATICS A/C PRESS		4.0			*	B		A	1	D	1132	1135
REV	1134	FUEL		4.0			*	B		A	1	D	1133	1137
REV	1135	UTIL/BOOST AUX HYD		4.0			*	B		A	1	D	1134	1138/39
REV	1136	COMM NAV FLT SYS		4.0			*	B		A	1	D	1135	1140/41
REV	1137	AAR SYS		4.0			*	B		A	1	D	1136	1142
REV TOTAL			8	32.0	0	0.0								
INTERMEDIATE PROGRESS EVALUATION (CK)														
SMCK	1150	INTERMED CK				4.0	*	B	E	S		(N)	1137	1150
CK TOTAL			0	0.0	0	4.0								
MAINTENANCE GROUND RUNS (MGR)														
SMGR	1160	INTRO GROUND RUN-UP				3.0	*	B		S/A		D	1150	1160
SMGR	1161	REV GROUND RUN-UP				4.0	*	B		S/A		D	1160	1161
MGR	1162	REV GROUND RUN-UP		4.0			*	B,R		A	1	D	1161	1162
MGR	1163	REV GROUND RUN-UP		4.0			*	B		A	1	D	1162	1163
MGR	1164	MAINT GROUND RUN-UP		4.0			*	B		A	1	D	1163	1164
MGR TOTAL			3	12.0	2	7.0								
FUNCTIONAL CHECK FLIGHTS (FCF)														
SFCF	1165	INTRO FCF				4.0	*	B		S/A		D	1164	1165
SFCF	1166	PRACTICE FCF				4.0	*	B		S/A		D	1165	1166
FCF	1167	REV FCF		4.0			*	B,R		A	1	D	1166	1167
FCF TOTAL			1	4.0	2	8.0								
TACTICAL NAVIGATION														
TN	1200	LOW LEVEL FAM		2.0			*	B		A	1	D	1150	1200
TN TOTAL			1	2.0	0	0.0								
AIR-TO-AIR REFUELING (AAR)														
AAR	1600	FW/TR AAR		3.0			*	B		A	1	(N*)	1150	1600/01
AAR	1601	RW AAR		3.0			*	B		A	1	(N*)	1150	1602
AAR TOTAL			2	6.00	0	0.0								
1000 PHASE TOTAL			21	80.0	23	57.0								

4.14 T&R SYLLABUS MATRIX (2000-6000)

KC-130T FLIGHT ENGINEER T&R SYLLABUS MATRIX (2000-6000 PHASE)																
SKILL	T&R EVENT INFORMATION				DEVICE	NUMBER	COND	BASIC	REF	MAINT	ACAD HOURS	SIM TIME	FLIGHT TIME	EVAL	EVENT CONV
	T&R DESCRITION	STAGE	EVENT #	RE-FLY											
CORE SKILLS (2000 PHASE)															
FAMILIARIZATION (FAM)															
FAM	FAM	FAM	2000R	90	A/S	1	(N)	X	X	X			2.0		2000
NIGHT SYSTEMS (NS)															
NS	HLL NS FAM	NS	2150R	365	A	1	NS	X	X	X			2.0		2150
	LLL NS FAM	NS	2151R	180	A	1	NS	X	X	X			2.0		2151
LONG RANGE NAVIGATION (LRN)															
LRN	LONG RANGE NAV	LRN	2160R	365	A/S	1	(N)	X	X	X			8.0		2160
TACTICAL NAVIGATION (TN)															
TN	TACNAV	TN	2200R	*	A	1	D	X	X				2.0		2200
	HLL TACNAV	TN	2250R	*	A	1	NS	X	X				2.0		2250
	LLL TACNAV	TN	2251R	180	A	1	NS	X	X	X			2.0		2251
LOW ALTITUDE TACTICS (LAT)															
LAT	LAT	LAT	2260R	180	A	1	D	X	X	X			2.0		2260
FORMATION (FORM)															
FORM	FORM	FORM	2300R	365	A	2	(NS)	X	X	X			2.0		2300
THREAT REACTION (TR)															
TR	IR THREAT REACTION	TR	2400R	365	A/S	1	(NS)	X	X	X			2.0		2400
MISSION SKILLS (3000 Phase)															
ASSAULT LANDING ZONE (ALZ)															
ALZ	DAY ALZ	ALZ	3500R	*	A	1	D	X	X				2.0		3500
	NS ALZ	ALZ	3550R	365	A	1	NS	X	X	X			2.0		3550/51
AIR-TO-AIR REFUELING (AAR)															
AAR	FWAAR	AAR	3600R	365	A	1	(N)	X	X	X			3.0		3600
	DAY HAAR	AAR	3601R	365	A	1	D	X	X	X			3.0		3601
	NVD HAAR	AAR	3650R	365	A	1	NS	X	X	X			3.0		3650
AVIATION DELIVERED GROUND REFUELING (ADGR)															
ADGR	ADGR	ADGR	3660R	730	A	1	(N)	X	X	X			0.0		3660
AIR DELIVERY (AD)															
AD	AD	AD	3700R	365	A	1	(NS)	X	X	X			2.0		3700/50
CORE PLUS (4000 Phase)															
THREAT REACTION (TR)															
TR	IR THREAT REACTION	TR	4400R	365	A/S	1	(NS)	X	X	X			2.0		4400
DEFENSIVE TACTICS (DT)															
DT	DT	DT	4410R	365	A	1	D	X	X	X			2.0		4410
AIR DELIVERY (AD)															
AD	AD MFF	AD	4700R	365	A	1	(N)	X	X	X			2.0		4700

KC-130T FLIGHT ENGINEER T&R SYLLABUS MATRIX (2000-6000 PHASE)																
SKILL	T&R EVENT INFORMATION				DEVICE	NUMBER	COND	BASIC	REF	MAINT	ACAD HOURS	SIM TIME	FLIGHT TIME	EVAL	EVENT CONV
	T&R DESCRITION	STAGE	EVENT #	RE-FLY											
INSTRUCTOR TRAINING (5000 Phase)															
FLIGHT ENGINEER INSTRUCTOR (FEI)															
FEI	INTRO SIM OPS	SFEI	5100	*	S		D	X				4.0		X	5100
	PRACTICE SIM OPS	SFEI	5101	*	S		D	X				4.0		X	5101
	PRACTICE SIM OPS	SFEI	5102	*	S		D	X				4.0		X	5102
	REVIEW SIM OPS	SFEI	5103	*	S		D	X				4.0		X	5103
	SIM EVAL	SFEI	5104	*	S		D	X				4.0		X	5104
	INTRO IUT	FEI	5105	*	A	1		X					4.0	X	5105
	PRACTICE IUT	FEI	5106	*	A	1		X					4.0	X	5106
	REVIEW IUT	FEI	5107	*	A	1		X					4.0	X	5107
	FEI EVAL	FEI	5108R	*	A	1		X	X				4.0	X	5108
NATOPS INSTRUCTOR (ANI/NI)															
NI	ANI	NI	5140R	365	A	1	(N)	X	X	X			3.0	X	5140
	NI	NI	5141R	365	A	1	(N)	X	X	X			3.0	X	5141
NIGHT SYSTEMS INSTRUCTOR (NSI)															
NSI	NS FAM	NSI	5150R	*	A	1	NS	X	X				2.0	X	5150
	NS LLL	NSI	5151R	*	A	1	NS	X	X				2.0	X	5151
	NS AD	NSI	5152R	*	A	1	NS	X	X				2.0	X	5152
	NSI EVAL	NSI	5153R	*	A	1	NS	X	X				2.0	X	5153
WEAPONS AND TACTICS INSTRUCTOR (WTI)															
WTI	WTI	WTI	5999	*				X						X	5999
REQUIREMENTS, CERTIFICATIONS, DESIGNATIONS AND QUALIFICATIONS (6000 Phase)															
HIGH/LOW POWER (ROD)															
ROD	HIGH/LOW PWR R/U	ROD	6100R	*	A	1	(N)	X	X				1.0		6100
FUNCTIONAL CHECK FLIGHT (FCF)															
FCF	FCF CK	FCF	6106R	365	A	1	D	X	X	X			2.0		6106
NATOPS (NTPS)															
NTPS	NATOPS OPEN BOOK	NTPS	6010R	365	GRND			X	X	X	3.0			X	6010
	NATOPS CLOSED BOOK	NTPS	6011R	365	GRND			X	X	X	1.0			X	6011
	NATOPS ORAL EXAM	NTPS	6012R	365	GRND			X	X	X	3.0			X	6012
	FE-2 EVAL	NTPS	6116R	365	A	1	(N)	X	X	X			4.0	X	6016
	FE-1 EVAL	NTPS	6117R	*	A	1	(N)	X	X	X			4.0	X	6117
	ANNUAL NATOPS EVAL	NTPS	6118R	365	A	1	(N)	X	X	X			4.0	X	6118

4.15 SYLLABUS EVALUATION FORMS. Contact MAWTS-1 to receive FE T&R syllabus evaluation forms.