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NAVMC 3500.83B

From: Commandant of the Marine Corps
To: Distribution List

Subj: F-5F/N TRAINING AND READINESS MANUAL

Ref: (a) NAVMC 3500.14D

Encl: (1) F-5F/N T&R Manual

1. Purpose. In accordance with reference (a), enclosure (1) contains revised standards and regulations regarding the training for F-5F/N aircrew.

2. Cancellation. NAVMC 3500.83A

3. Scope. Highlights of major Training and Readiness (T&R) planning considerations included in this F-5F/N T&R Manual are as follows:

   a. Updated both chapters to comply with reference (a).

   b. Revised the Core Introduction Basic Fighter Maneuver Stage regarding dissimilar flights to allow for deferral or waiver of two events in the case of experienced aircrew.

   c. The 4000 Phase Night Support Stage now allows for pilots to support the Operating Forces after the completion of five events versus the complete eight event syllabus.

   d. Reconfigured various instructor designations to provide more standardization and alignment.

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 Division (MTESD) (C 466), Aviation Standards Branch using standard Naval correspondence or the Automated Message Handling System plain language address: CG TECOM MTESD.

5. <u>Command</u>. This Manual is applicable to the Marine Corps
Total Force.

6. <u>Certification</u>. Reviewed and approved this date.

K. M. IIAMS
By direction

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CHAPTER 1

F-5F/N TRAINING AND READINESS UNIT REQUIREMENTS

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CHAPTER 1

F-5F/N TRAINING AND READINESS UNIT REQUIREMENTS

1.0 <u>TRAINING AND READINESS REQUIREMENTS</u>. The goal of Marine Aviation is to attain and maintain combat readiness to support Expeditionary Maneuver Warfare while conserving resources. The standards established in this program are validated by subject matter experts to maximize combat capabilities for assigned METs. These standards describe and define unit capabilities and requirements necessary to maintain proficiency in mission skills and combat leadership. Training Events are based on specific requirements and performance standards to ensure a common base of training and depth of combat capability.

1.1 <u>MISSION</u>. The VMFT Mission is to provide safe, professional adversary support to enhance the combat readiness of Marine aviation and ground units. Additionally, support non-USMC units on a not-to-interfere basis.

1.2 <u>TABLE OF ORGANIZATION (T/O)</u>. Refer to Table of Organization managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for VMFT-401. As of this publication date, VMFT-401 is authorized:

Table of Organization F-5E/F/N	
AIRCRAFT	PILOTS
13	20 (5 AD, 5 AR, 10 SMCR)

1.3 <u>MISSION ESSENTIAL TASK LIST (METL)</u>. The METL is comprised of specified capabilities-based Mission Essential Tasks (METs) which a unit is designed to execute. METs are drawn from the Marine Corps Task List (MCTL), are standardized by type unit, and defined as Core or Core Plus METs. Core METs are those tasks that a unit is expected to execute at all times, and are the only METs used in reporting the Training Level (T-Level) for the Core Mission (C-Level) in the Defense Readiness Reporting System – Marine Corps (DRRS-MC). Core Plus METs identify 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 to conduct the assigned mission. MCO 3000.13 provides additional information on readiness reporting.

F-5F/N		
MISSION ESSENTIAL TASK LIST (METL)		
CORE		
MET	**SKILL ABBREVIATION**	MET DESCRIPTION
MCT A	**AA**	Provide AAW training to FW units
MCT B	**HA**	Provide AAW training to RW units
MCT C	**SA**	Provide SA training to ground units
MCT D	**CC**	Provide C2 training capability

1.4 <u>MISSION ESSENTIAL TASK (MET) TO SIX FUNCTIONS OF MARINE AVIATION</u>

F-5F/N							
MISSION ESSENTIAL TASK (MET) TO SIX FUNCTIONS OF MARINE AVIATION							
CORE							
MET	**SKILL ABBREVIATION**	**SIX FUNCTIONS OF MARINE AVIATION**					
		OAS	**ASPT**	**AAW**	**EW**	**CoA&M**	**AerRec**
MCT A	**AA**			X			
MCT B	**HA**			X			
MCT C	**SA**	X					
MCT D	**CC**					X	

1.5 <u>MET TO CORE/MISSION/CORE PLUS SKILL MATRIX</u>. 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 AA shows a one-to-one relationship with the AA Mission Skill; the HA MET shows a one-to-one relationship with the HA Mission Skill, and so on. Shading indicates Core Plus.

F-5F/N																
MISSION ESSENTIAL TASK TO CORE/MISSION/CORE PLUS SKILL MATRIX																
SKILL ABBREVIATION	**CORE SKILLS 2000 PHASE**							**MISSION SKILLS 3000 PHASE**				**CORE PLUS SKILLS 4000 PHASE**				
	FAM	**INST**	**AG**	**LAT**	**HA**	**BFM**	**FI**	**AA**	**HA**	**SA**	**CC**	**AA**	**AAW**	**SA**	**HA**	**NSPT**
AA	X	X		X		X	X	X				X	X		X	X
HA	X	X		X	X	X			X			X	X		X	
SA	X	X	X	X						X				X		
CC	X	X		X		X	X				X	X	X	X		X

1.6 <u>MISSION ESSENTIAL TASK (MET) OUTPUT STANDARDS</u>. The following MET output standards are the required level of performance a VMFT 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 VMFT 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 0.85 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.

F-5F/N				
Output Standards - 13 Aircraft				
CORE				
MET	**SKILL ABBREVIATION**	**MET DESCRIPTION**	**OUTPUT STANDARD**	
			MAXIMUM MCT SORTIES	**MAXIMUM DAILY SORTIES**
MCT A	**AA**	Provide AAW training to FW units	22	22
MCT B	**HA**	Provide AAW training to RW units	22	
MCT C	**SA**	Provide SA training to ground units	22	
MCT D	**CC**	Provide C2 training capability	22	

1.7 <u>CORE MODEL MINIMUM REQUIREMENTS (CMMR) TRAINING STANDARDS FOR READINESS REPORTING (DRRS-MC)</u>. The paragraphs and tables below delineate the minimum aircrew qualifications and designations required to execute the MET training standards and MET observed standards of para 1.9. MCO 3000.13 Readiness Reporting and Chapter 7 of the Aviation T&R Program Manual provide additional guidance and a detailed description of readiness reporting using the Defense Readiness Reporting System – Marine Corps (DRRS-MC).

1.7.1 The CMMR Readiness Reporting Matrix depicts the minimum crew composition (defined as a combination of qualifications and designations) reflecting 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.

VMFT-401 F-5F/N		
CMMR READINESS REPORTING MATRIX		
CREW POSITION BASED UPON SQUADRON - 13 AIRCRAFT		
MET	**SKILL ABBREVIATION**	**PILOTS**
MCT A	AA	16
MCT B	HA	14
MCT C	SA	10
MCT D	CC	16
COMBAT LEADERSHIP		
DESIGNATION		**PILOTS**
SECTION LEADER		14
DIVISION LEADER		10
MISSION COMMANDER		6

1.8 <u>CORE MODEL TRAINING STANDARD (CMTS)</u>. 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).

VMFT-401 F-5F/N	
CORE MODEL TRAINING STANDARD (CMTS)	
CORE SKILLS (2000 Phase)	
CORE SKILL	**PILOTS**
FAM	16
INST	16
AG	14
LAT	14
HA	14
BFM	16
FI	16
MISSION SKILLS (3000 Phase)	
MISSION SKILL	**PILOTS**
AA	16
HA	14
SA	10
CC	16
CORE PLUS SKILLS (4000 Phase)	
CORE PLUS	**PILOTS**
AA	12/2
AAW	12/2
SA	8/2
HA	8/2
NSPT	6/2

NOTE

For Core Plus Skills, 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 should train if that MET becomes required within an Assigned Mission/Directed Mission Set

1.9 <u>INSTRUCTOR DESIGNATIONS</u>. For normal operations (not deployed for contingency operations). The squadron Pilot Training Officer billet shall be filled by personnel that have completed the Marine Adversary Tactics Instructor Course, Weapons and Tactics Instructor Course, Navy Fighter Weapons School (NFWS) Adversary Course or equivalent.

VMFT-401 F-5F/N	
INSTRUCTOR DESIGNATIONS (5000 PHASE)	
DESIGNATIONS	**PILOTS**
NATOPS INSTRUCTOR (NI)	1
ASST NATOPS INSTRICTOR (ANI)	2
INSTRUMENT EVALUATOR	3
LATI	4
FAMI	3
ATI	6
MATI / WTI / MDTC / NFWS	2
PMCF	3

APPENDIX A

ORDNANCE

ORDNANCE REQUIREMENTS. The basis for the ordnance requirements for the F-5F/N Adversary community is unique. Expendable IR countermeasures (flares) are a training aid for the adversary's customer (the Fleet unit supported). Those requirements in the table below are required to train the F-5 pilot in their use, and should be considered a minimum. Because of the benefit to the customer, the NCEA should reflect a number greater than that derived for training F-5 pilots.

	BASIC POI (1)	REFRESHER POI (2)	FLIGHT LEAD UPGRADE (3)	INSTRUCTOR UPGRADE (4)
CATM-9	ALL BFM, AA, AAW, HA	ALL BFM, AA, AAW, HA	ALL	ALL
FLARES	1730	920	210	420
PILOTS (20)	6	14	6	6
General: Requirements are per individual. 1. Initial transition crews shall fly all 1000-, 2000-, and 3000-level events. 2. Refresher pilots shall fly all R-coded events. 3. Must annually train one third of Unit CMMR Combat Leadership level in each of SL, DL, MC. 4. Must annually train one third of CMMR Instructors.				

F-5F/N ANNUAL SQUADRON REQUIREMENTS					
	BASIC POI	REFRESHER POI	FLIGHT LEAD UPGRADE	IP UPGRADE	ANNUAL SQUADRON TOTAL
FLARES	10350	12870	1960	420	25600

TRAINING RESOURCE REQUIREMENTS. The training resources required for an adversary squadron are primarily sufficient range airspace to execute appropriate threat presentations, a TACTS/TCTS/ACMI tracking and recording capability for debrief validation, external Ground Controlled Intercept (GCI) controllers (or Airborne Intercept Controller capability) and occasionally dissimilar fighters to complete Core Skill Introduction training. Secondary requirements include expendables (chaff/flare) to replicate applicable threats, threat representative captive carry Air-to-Air weapons (CATM-X) and a threat representative avionics suite to include RADAR and EA.

F-5 ABBREVIATIONS	
CORE SKILLS	
FAM	Familiarization
INST	Instrument
AWI	All-Weather Intercept
BFM	Basic Fighter Maneuvering
AG	Air-to-Ground
LAT	Low Altitude Tactics
HA	Hellicopter Attack
FI	Fighter Intercept
SA	Surface Attack
AA	Air-to-Air
AAW	Anti-Air Warfare
MISSION SKILLS	
AA	Anti-Air Warfare (FW)
HA	Anti-Air Warfare (RW)
SA	Surface-to-Air Warfare
CC	Command and Control

CHAPTER 2

F-5F/N PILOT

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CHAPTER 2 PILOT

2.0 INDIVIDUAL TRAINING AND READINESS REQUIREMENTS. This T&R syllabus is based on specific goals and performance standards designed to ensure individual proficiency in Core and Mission Skills. The goal of this chapter is to develop individual and unit war fighting capabilities for the F-5 pilot.

2.1 TRAINING PROGRESSION MODEL. This model represents the recommended training progression for the average F-5 pilot in terms of Core Skills, qualifications, and designation attainment. Units should use the model as a point of departure to generate individual training plans.

VMFT-401 F-5 PILOT TRAINING PROGRESSION MODEL																							

2.2 PROGRAMS OF INSTRUCTION (POI).. These tables reflect average time-to-train versus the minimum to maximum time-to-train parameters in the Training Progression Model.

 General. Even though all pilots assigned to fly the F-5 are from other communities, they will still be assigned to the F-5F/N Basic POI. Once complete with the Basic POI, they will be assigned to the Refresher POI. Pilots returning to the F-5 after time away from it will be assigned to the Refresher POI.

All pilots desiring orders to VMFT-401 shall be at a minimum, AV-8B ACTI, FA-18 FAI, or equivalent qualified per their respective T/M/S in order to be eligible for assignment to 401.

2.2.1 Basic (B) POI. The transition POI is based on the assumption that the PUI is either on active duty, or if an SMCR, on active duty orders for the time required to complete the syllabus through the Core Skill Introduction Training. In the case that an SMCR pilot is not on active duty orders during this POI, the time to train will be significantly longer. For subsequent phases (Core Skill and later), the time-to-train is based on a normal SMCR participation schedule. Active duty pilots will likely progress faster through these phases.

VMFT-401 F-5 PILOT		
BASIC POI		
WEEKS	COURSE	PERFORMING ACTIVITY
1-2	FAM	Adversary Squadron
3-5	AWI/BFM	Adversary Squadron
6-7	AA (Core Skills Intro)	Adversary Squadron
8-10	BFM/FI	Adversary Squadron
11-12	AA	Adversary Squadron
13	AG/LAT	Adversary Squadron
14-15	HA/SA	Adversary Squadron
16-20	NSPT	Adversary Squadron

2.2.2 Refresher (R) POI. The Refresher Series represent pilots who have previously flown the F-5F/N. Refresher Pilots shall fly those events annotated with an R. Commanding officers/OICs will review the qualifications, previous experience, currency, and demonstrated ability of Refresher Pilot with a view towards combining required flights.

VMFT-401 F-5 PILOT		
REFRESHER POI		
WEEKS	COURSE	PERFORMING ACTIVITY
1-2	FAM	Adversary Squadron
3	AWI/BFM	Adversary Squadron
4	AA (Core Skills Basic)	Adversary Squadron
5-6	BFM/FI	Adversary Squadron
7	AA	Adversary Squadron
8	AG/LAT	Adversary Squadron
9	HA/SA	Adversary Squadron
10-14	NSPT	Adversary Squadron

2.3 PROFICIENCY AND CURRENCY

2.3.1 Event Proficiency. Event proficiency is defined as successful completion of the performance standard as determined by the instructor or evaluator. Event completion is predicated upon demonstrated proficiency. Once completed, it is logged in M-SHARP by entering the appropriate event code. M-SHARP automatically updates the event proficiency date to reflect the completion date.

2.3.2 Skill Proficiency. Proficiency is a measure of achievement of a specific skill. To attain Individual Skill proficiency, an individual must be simultaneously proficient in all events for that Skill. Individuals may be attaining proficiency in some skills while maintaining proficiency in others.

Maintaining Skill Proficiency. Once attained, skill proficiency is maintained by executing those events which have a Proficiency Period (Maintain events). Proficiency Periods establish the maximum time between Event demonstration. Should proficiency be lost in any maintain event, for a specific skill, that skill proficiency is temporarily lost. Skill proficiency can be re-attained by again demonstrating proficiency in the Event(s) that are not proficient. For flying communities, an individual shall complete delinquent events with a proficient instructor, crewman/flight lead as delineated by the T/M/S Syllabus Sponsor (see Chapter 3 of the Program Manual on specific instructor requirements for Low Altitude Flight, Night Systems, ACM, DM, DACM, DCM, FAC(A)).

Loss Of Individual Skill Proficiency. Should an individual lose proficiency in all maintain events in a skill, the individual will be assigned to the Refresher POI for the skill. To regain skill proficiency, the individual must demonstrate proficiency in all R-coded events for the skill.

Loss of Unit Skill Proficiency. If an entire unit loses proficiency in an Event, unit instructors shall regain proficiency by completing the Event with an instructor from a like unit. If not feasible, the instructor shall regain proficiency by completing the Event with another instructor. For flying communities, if a unit has only one instructor and cannot complete the Event with an instructor from another unit, the instructor shall regain proficiency with another aircraft commander or as designated by the commanding officer.

Proficiency Status. Proficiency is a "Yes/No" status by skill assigned to an individual. When an individual attains and maintains Core Skill Proficiency (CSP), Mission Skill Proficiency (MSP), Core Plus Skill Proficiency (CPSP), or Mission Plus Skill Proficiency (MPSP), the individual may count towards CMMR or CMTS.

2.3.3 Skill Currency. Currency is a control measure used to provide an additional margin of safety based on exposure frequency to a particular skill and applies to all MOS's that must comply with NATOPS and OPNAV requirements. It is a measure of time since the last event demanding that specific skill. For example, currency determines minimum altitudes in rules of conduct based upon the most recent low altitude fly date. Specific currency requirements for aircrew individual type mission profiles can be found in Chapter 3 of the Aviation T&R Program Manual, NAVMC 3500.14..

2.4 REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, AND DESIGNATION (RCQD) TABLES. The tables below delineate T&R events required to be completed to attain proficiency, 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. Certification, qualification and designation letters signed by the Commanding Officer shall be placed in Aircrew Performance Records (APR) and NATOPS

jackets. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.

2.4.1 Designations

VMFT-401 F-5 PILOT	
DESIGNATIONS	
Designation	Designation Requirements
SEC LEAD	6201, 6202, 6203, 6204, 6205, 6206, 6207, 6208
DIV LEAD	6301, 6302, 6303, 6304, 6305
MSN CDR	6401, 6402, 6403, 6404
LATI	5101, 5102
FAMI	5201, 5202
PMCF	6501, 6502
ATI	5301, 5302, 5303, 5304

2.4.2 Qualifications

VMFT-401 F-5 PILOT	
QUALIFICATIONS	
Qualification	Qualification Requirements
NATOPS	6701, 6702, 6703, 6704
INST	6801, 6802, 6803
ACM QUAL	1301, 1302, 1401, 1402, 1403, 1404, 1405, 1601, 1602, 1603, 1701, 1702, 1801, 1802,1803, 1804,1805,1806
LAT QUAL	2401, 2402
HA QUAL	2501, 2502

2.4.3 USMC Adversary Qualifications Equivalency. The following list depicts the relationship of USMC and US Navy Adversary Pilot qualifications:

USMC Qual / Desg:	USN Equivalent:
ACM Qualified	Level I Adversary
Section Leader	Level II Adversary
Division Leader	Level III Adversary
Mission Commander	Level IV Adversary
Adversary Tactics Instructor	Level IV(I) Adversary

2.5 SYLLABUS NOTES

2.5.1 For the purposes of this Manual, the qualification to fly the F-5F/N series is interchangeable. There is no MOS for F-5F/N pilots, so the qualification will be recorded in the qualification record in the NATOPS jacket and logbook.

2.5.2 All events, to include simulators, shall begin with a comprehensive brief with emphasis on administrative procedures, CRM, mission performance standards and aircrew expectations.

2.5.3 All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance utilizing all evaluation techniques available.

2.5.4 An ATF is required for any initial event completed by a Basic or Refresher pilot, or as recommended by the squadron Standardization Board. If the commanding officer has waived/deferred a syllabus sortie, the squadron training officer shall place a waiver/deferral letter in section 3 of the APR per the Aviation T&R Program Manual, NAVMC 3500.14.

2.5.5 Event Conditions. Refer to the following table for required event conditions.

Code	Environmental Condition
D	Shall be flown or conducted during day
N	Shall be flown or conducted at night (using available night vision devices or flown unaided) at least 30 minutes after official sunset.
(N)	May be flown or conducted day or night; if at night, available night vision devices may be used or flown unaided
D/NS	Shall be flown both day and night conditions, unless flown in the aircraft, in which case the event may be flown during day or night conditions
NS	Shall be flown or conducted at night using available night vision devices at least 30 minutes after official sunset
(NS)	May be flown or conducted day or night; if at night, available night vision devices shall be used
N*	Event Shall be flown or conducted at night unaided
(N*)	Event may be flown or conducted at night; if at night, shall be flown unaided

2.5.6 Device Matrix

DEVICE	
Code	Requirement
A	Event performed in aircraft.
S	Event performed in simulator or a simulated practical application.
A/S	Event performed in aircraft preferred/simulator optional.
S/A	Event performed in simulator preferred/aircraft optional.

2.5.7 Program of Instruction Matrix

PROGRAM OF INSTRUCTION MATRIX		
Program of Instruction (POI)	Symbol	Description
Basic	B	Initial MOS/Skill Training
Refresher	R	DIFDEN to DIFOP in same T/M/S
Maintain	M	All individuals who have attained CSP/MSP/CPP by initial POI assignment are re-assigned to the M POI to maintain proficiency.

2.5.7 Event Terms

EVENT TERMS	
Term	Description
Discuss	An explanation of systems, procedures, or maneuvers during the brief, in flight, or post flight. PUI is responsible for knowledge of procedures.
Demonstrate	The description and performance of a particular maneuver/event by the instructor, observed by the PUI. The PUI is responsible for knowledge of the procedures prior to the demonstration of a required maneuver.
Introduce	The instructor may demonstrate a procedure or maneuver to PUI, or may coach the PUI through the maneuver without demonstration. The PUI performs the procedures or maneuver with coaching as necessary. The PUI is responsible for knowledge of the procedures.
Practice	The performance of a maneuver or procedure by the PUI that may have been previously introduced in order to attain a specified level of performance.
Review	Demonstrated proficiency of a maneuver by the PUI.
Evaluate	Any flight designed to evaluate aircrew standardization that does not fit another category such as SARCK, HACCK, T2PCK, etc.

2.5.8 Academic/Ground Training. Academic training shall be conducted for each phase/stage of the syllabus. Applicable training codes for these academic events are located in the description for each phase. As a general rule, these academic events are all listed at the beginning of each block (e.g. 1000-, 2000-, etc.), except in cases where the academic event fits better alongside the applicable flight event (e.g. Open Book NATOPS test has a code adjacent to the NATOPS check ride sortie). Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

2.6 CORE INTRODUCTION PHASE. This training includes fundamental system/equipment operation familiarization, initial procedures, and initial exposure to Core Skills. Because all pilots assigned to the F-5 as Adversary Pilots must already be designated ACTI / FAI (or equivalent) in other aircraft, the Core Introduction Phase is designed to allow the transition pilot to progress through ACM Qualification in the F-5 by the completion of this phase.

CORE INTRODUCTION PHASE		
STAGE	PARAGRAPH	PAGE NUMBER
ACAD	2.7.1	2-7
FAM	2.7.2	2-7
INST	2.7.3	2-9
AWI	2.7.4	2-10
BFM	2.7.5	
AA	2.7.6	

2.7 <u>CORE INTRODUCTION STAGES</u>

2.7.1 <u>Academics</u>. The following table lists the academic events for the Core Introduction Phase.

ACADEMICS (ACAD)		
Training Code	Event	Source
ACAD-1001	F-5 Systems	Self paced CBT
ACAD-1002	F-5 Ground School	FAMI
ACAD-1003	Parachute Brief / Seat Brief / Cockpit FAM	Maintenance-FE, Seat Shop/FAMI
ACAD-1004	Departure/OCF Lecture	FAMI
ACAD-1005	SOP Review / Test	PTO
ACAD-1006	RADAR lecture and hardware demo	PTO/Maintenance
ACAD-1010	TOPGUN Manual "Comm Brevity"	S-2/SIPR
ACAD-1011	TOPGUN Manual "Command and Control"	S-2/SIPR
ACAD-1020	TOPGUN Manual "1v1 Air Combat"	S-2/SIPR
ACAD-1030	TACSOP Review	PTO
ACAD-1031	Adversary Threat Replication Guide (ATRG)	S-2/SIPR
ACAD-1032	TOPGUN Manual "Adversary"	S-2/SIPR

2.7.2 <u>Familiarization (FAM) Stage</u>

<u>Purpose</u>. The FAM stage is designed to take a PUI through the initial introduction to the F-5 aircraft, its systems, and its flight characteristics. Safe operation and compliance with NATOPS from chocks to chocks is the focus of this stage.

<u>General</u>. This stage is intended to be completed in order, and shall be flown with a FAMI, both for dual sorties (F-5F), and the chased sorties (in the F-5N). By the end of this stage, the PUI should be competent to safely operate the F-5 series aircraft as a single ship, a wingman in a section, and as a backup flight leader in the event of an in-flight emergency.

<u>Crew Requirements</u>. Dual sorties require a FAMI in the back seat. Solo sorties are flown as a section, with a FAMI in lead role. PUI must be FAM Stage complete before flying a solo sortie in any other stage.

<u>Academic/Ground Training</u>. PUI shall complete ACAD-1001 through ACAD-1005 and NTPS-6701 and 6702 (Open and Closed Book Tests) prior to beginning the flight phase.

<u>FAM Overview</u>

FAMILIARIZATION (FAM)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
FAM-1101	0.0	*	B,R	D	A	1	Taxi FAM
FAM-1102	1.0	*	B,R	D	A	1	First FAM
FAM-1103	1.0	*	B,R	D	A	1	Safe for Solo check
FAM-1104	1.0	*	B	D	A	2	Intro Solo Ops
FAM-1105	1.0	*	B,R	D	A	2	GCA Recovery
FAM-1106	1.0	*	B	D	A	2	VFR Course Rules
FAM-1107	1.0	*	B,R	D	A	2	FAM Check Ride

<u>FAM-1101</u>   0.0   *   B,R   D   A   1 F-5F

<u>Goal</u>. Taxi FAM. Introduce F-5 Line Procedures (preflight, start, post start, pre-taxi, post flight and shutdown checks in addition to Plane Captain signals). Introduce taxiing technique.

<u>Requirement</u>. PUI completes start checks in the F-5F with the FAMI in the back seat. Taxi out of the line, complete all checks up through takeoff checks. Taxi back into line, complete all post flight and shutdown checks. This event may be combined with FAM-1102.

<u>Performance Standard</u>. Safe conduct in the opinion of the FAMI.

<u>Prerequisite</u>. Ground School complete (ACAD-1001 through 1005), and the Open/Closed Book NATOPS exams (NTPS-6701, 6702). Watch a minimum of one launch with a FAMI. This event may be combined with FAM-1101.

<u>References</u>. VMFT-401 Sortie Syllabus Guide.

FAM-1102   1.0   *   B,R   D   A   1 F-5F

Goal. First Flight. Practice line and taxi procedures. Introduce takeoff, area work (aircraft handling, stalls, manual gear release), and full-flap landings from the front seat of the F-5F. Introduce Inverted-Pitch Hangup (IPH) Demo.

Requirement. Dual sortie with FAMI. PUI complete minimum of five full-flap landings from the front seat of an F-5F.

Performance Standard. Complete sortie safely in the opinion of the FAMI. Land within first 1000 feet of runway by end of sortie. Compliance with Course Rules and ATC instructions. Compliance with NATOPS.

Prerequisite. FAM-1101.

Range Requirement. RSTD SFC-FL300.

References. VMFT-401 Sortie Syllabus Guide.

FAM-1103   1.0   *   B,R   D   A   1 F-5F

Goal. Practice F-5 ground procedures, takeoffs, and landings. Practice air work (aircraft handling, acrobatics, and stalls). Introduce no-flap landing, GCA, and drag-chute full stop landing.

Requirement. PUI conducts simulated single engine GCA for recovery. PUI completes 1 no-flap landing and 4 full-flap landings. PUI conduct drag-chute full-stop landing.

Performance Standard. Safe conduct in the opinion of the FAMI who will make "safe-for-solo" determination. 75 percent of landings in first 1000 feet of runway. Drag chute deployed within 3000 feet of runway threshold. Instrument approach must terminate in a manner which would allow for a safe landing.

Prerequisite. FAM-1102.

Range Requirement. RSTD SFC-FL300.

External Support. Ground-Controlled Approach.

References. VMFT-401 Sortie Syllabus Guide.

FAM-1104   1.0   *   B   D   A   2 F-5N

Goal. Introduce solo flight operations in a section of aircraft. Introduce "N" model avionics and recovery via course rules as lead aircraft with a FAMI chase. Practice all line procedures, air work (aircraft handling, acrobatics), course rules, and landings. Introduce formation flight (join up, position-keeping, overhead recovery).

Requirement. Flown with FAMI. Minimum of five (5) landings total – 1 x no-flap, and 4 x full-flap.

Performance Standard. Safe conduct in the opinion of the FAMI.

Prerequisite. FAM-1103.

Range Requirement. RSTD SFC-FL300.

References. VMFT-401 Sortie Syllabus Guide.

FAM-1105   1.0   *   B,R   D   A   2 F-5N

Goal. Introduce recovery by GCA as -2 in a section. Practice all line procedures, aircraft handling, and landings.

Requirement. Flown with FAMI. Minimum of four (4) landings total – 1 x No-flap, and 3 x Full-flap.

Performance Standard. Safe conduct in the opinion of the FAMI. Instrument approach must terminate in a manner which would allow for a safe landing.

Prerequisite. FAM-1104.

Range Requirement. RSTD SFC-FL300.

External Support. Ground-Controled Approach.

References. VMFT-401 Sortie Syllabus Guide.

FAM-1106   1.0   *   B   D   A   2 F-5N

Goal. Introduce recovery via VFR Course Rules as -2 in a section. Practice all line procedures, aircraft handling, and landings.

Requirement. Flown with FAMI. Minimum of Four (4) landings total – 1 x No-flap, and 3 x Full-flap.

Performance Standard. Safe conduct in the opinion of the FAMI.

Prerequisite. FAM-1105.

Range Requirement. RSTD SFC-FL300.

References. VMFT-401 Sortie Syllabus Guide.

FAM-1107   1.0   *   B,R   D   A   2 F-5N

Goal. FAM stage check ride. Introduce section GCA recovery as the lead aircraft of the section. Practice all procedures, airwork, and landings introduced in the FAM stage.

Requirement. Section GCA recovery as section leader. Minimum of four (4) landings.

Performance Standard. Compliance with all ATC instructions when IFR. Safe conduct in the opinion of the FAMI. FAMI determination that the PUI is safe for solo operations beyond the FAM stage. Instrument approach must terminate in a manner which would allow for a safe landing.

Prerequisite. FAM-1106.

Range Requirement. RSTD SFC-FL300.

External Support. Ground-Controlled Approach.

References. VMFT-401 Sortie Syllabus Guide.

2.9.3 Instrument (INST) Stage

Purpose. The INST stage is designed to introduce the PUI to operation of the F-5 aircraft under instrument flight rules. The PUI will develop an effective instrument scan in the F-5 for use in airways navigation and in the conduct of both precision and non-precision approaches. An additional goal is to build toward the instrument flight hour and approach requirements for annual instrument qualification per OPNAVINST 3710.7.

General. This phase is intended to be completed in order once the PUI is FAM stage complete. These sorties will be flown solo as a single ship and do not require an instructor. By the end of this stage the PUI should be competent to safely operate the F-5 series aircraft under IFR, as a single ship or as a backup flight leader in the event of an in-flight emergency. These sorties are flown IFR, but in VMC. The PUI will not be instrument-rated in the F-5 at this point in the syllabus.

Crew Requirements. These events are intended to be flown as a single aircraft with a single pilot. In the case that an F-5F is substituted for an F-5N, the PUI should fly it from the front seat in the solo configuration. If weather is a training inhibitor, the sorties can be flown in the F-5F in IMC conditions if there is a current, qualified F-5 pilot in the back seat as a weather "shotgun."

Academic/Ground Training. Complete Instrument Ground School and Instrument Test (INST-6801, 6802) if NATOPS Instrument Rating is not current.

INST Overview

INSTRUMENTS (INST)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
INST-1201	1.0	*	B	D	A	1	GCA & TACAN
INST-1202	1.0	*	B,R	D	A	2	Airways NAV.

INST-1201   1.0   *   B   D   A   1 F-5N

Goal. Familiarization with the GCA pattern and TACAN approach.

Requirement. Complete one TACAN approach, one ASR, and three PAR approaches.

Performance Standard. Compliance with all ATC directions and appropriate directives governing instrument flight. All approaches must terminate in a manner which would allow for a safe landing.

Prerequisite. FAM-1107.

External Support. Ground-Controlled Approach. An airfield with suitable precision and non-precision approaches available for practice approaches. If no precision approach radar is available, substitute ASR for the PAR requirements.

References. OPNAVINST 3710.7. NATOPS Manual.

INST-1202   1.0   *   B,R   D   A   1 F-5N

Goal. Familiarization with airways navigation in the F-5 series aircraft.

Requirement. Complete IFR round-robin sortie to include flight plan filing. The intent of this event is to conduct airways navigation to an unfamiliar field (not home base), conduct an approach there, and navigate back to home base. Conduct another instrument approach at home base.

Performance Standard. DD-175 properly filed. Airways navigation IAW FAA rules and regulations. One each: precision and non-precision approach. All approaches must terminate in a manner which would allow for a safe landing.

Prerequisite. FAM-1107.

External Support. Ground-Controlled Approach. An airfield with suitable precision and non-precision approaches available for practice approaches. If no precision approach radar is available, substitute ASR for the PAR requirements.

References. OPNAVINST 3710.7. NATOPS Manual.

2.9.4 All Weather Intercept (AWI) Stage.

Purpose. The AWI stage is to develop the PUI's skills in the use of the APQ-159 RADAR system to find other FW aircraft that are beyond visual range (BVR).

General. This stage is intended to be completed in order and may be flown concurrently with other stages. The first two sorties in the stage will be required before beginning the BFM stage. The AWI phase must be completed prior to beginning section dissimilar air-combat maneuvering (AA-1801). An ATI is required as an instructor for all of the sorties in this stage. By the end of this stage, the PUI should be able to find look-up radar contacts on the APQ-159, and convert them to a "tally" at least half the time, and be able to share time between RADAR work and section position-keeping so as not to lose sight of the section leader. If a PUI is unable to meet performance standards due to a poor performing RADAR, the PUI shall refly the event in another aircraft.

Crew Requirements. This stage is flown with an ATI as an instructor in another aircraft.

Academic/Ground Training. Prior to being scheduled in this stage, the PUI will have completed ACAD-1010 and 1011.

AWI Overview

ALL WEATHER INTERCEPT (AWI)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
AWI-1301	0.8	*	B	D	A	2	Intro 1v1 Intercepts
AWI-1302	0.8	*	B,R	D	A	2	Review 1v1 Intercepts
AWI-1701	0.8	*	B	D	A	2	Intro 2v2 Intercepts
AWI-1702	0.8	*	B,R	D	A	2	Review 2v2 Intercepts

AWI-1301   0.8   *   B   D   A   2 F-5F/N

Goal. Review F-5 canopy gouge and APQ-159 controls and displays. Introduce forward quarter intercepts to tally with lookup.

Requirement. Perform six Forward Quarter intercepts with lookup (at medium altitude). Weather permitting, the PUI will be in the 15-19k ft block, and the IP will be in the 20-24k ft block.

Performance Standard. Intercept to tally on 50% of attempts, using GCI (Tac-BRAA) or Reverse-GCI (B/E to Tac-BRAA) to guide RADAR usage. PUIs unable to achieve this standard shall refly the event.

Prerequisite. FAM-1107, ACAD-1006, 1010, 1011.

Range Requirement. RSTD SFC-FL300.

External Support. GCI desired.

References. TOPGUN Manual.

AWI-1302   0.8   *   B,R   D   A   2 F-5F/N

Goal. Introduce lookup/lookdown intercepts from lower altitudes against a single non-maneuvering / maneuvering target. Review APQ-159 controls and displays, and F-5 canopy gouge.

Requirement. Complete six FQ intercepts (three with lookdown and three with lookup).

Performance Standard. Conduct intercept to tally at least once with lookdown and once with lookup. PUIs unable to achieve this standard shall refly the event.

Prerequisite. AWI-1301.

Range Requirement. RSTD SFC-FL300.

External Support. GCI desired.

References. TOPGUN Manual.

AWI-1701   0.8   *   B   D   A   2 F-5F/N

Goal. Introduce section (2v2) intercepts as a wingman, sorting vs. non-maneuvering targets. Review RADAR controls and displays. Emphasize keeping sight of the flight leader and intercept mechanics (formation, comm, and RADAR). Introduce GCI control.

Requirement. Perform five section intercepts as the dash-2 against two non-maneuvering targets (either similar or dissimilar).

Performance Standard. PUI should be tally-one minimum at each merge.

Prerequisite. AWI-1302.

Range Requirement. RSTD SFC-FL300.

External Support. Two fighters (if flown dissimilar). GCI required. TACTS

References. TOPGUN Manual.

AWI-1702   0.8   *   B,R   D   A   2 F-5F/N

Goal. Practice section (2v2) intercepts. Introduce sorting vs. maneuvering targets. Introduce preplanned maneuvers in conjunction with RADAR usage and formation keeping. Review RADAR controls and displays. Emphasize keeping sight of the flight leader, and intercept mechanics (formation, comm, and RADAR). Review GCI control.

Requirement. Five section intercepts vs. non-maneuvering / maneuvering targets (either similar or dissimilar). Intercepts to include one section beam with lookup, one section beam with lookdown, one section drag with a recommit, and 2 preplanned beam maneuvers in section followed by direct confrontation at appropriate SAR-1 shot ranges.

Performance Standard. Block adherence on all runs, else repeat sortie. Maintain visual on all runs.

Prerequisite. AWI-1701.

Range Requirement. RSTD SFC-FL300.

External Support. Two fighters (if flown with dissimilar adversaries). GCI required. TACTS

References. TOPGUN Manual.

2.9.5 Basic Fighter Maneuvers (BFM) Stage

Purpose. The BFM stage is designed to introduce the PUI to maneuvering the F-5 aircraft against both similar and dissimilar adversaries. Use of the F-5 weapons system with regard to the eventual simulation of various gun and missile systems in threat fighters will be emphasized. Safe operation and compliance with the Air-to-Air training rules as put forth in the OPNAVINST 3710.7 will be stressed. Focus in this phase is on competence in F-5 BFM skills, and in its ultimate use as a training aid for other fighters, who are the customers of the Adversary community.

General. This phase is intended to be completed in order and shall be flown with an ATI for similar events, and with an ACTI (or equivalent IP (USAF), or Level 4 Adversary (USN)) for dissimilar events. By the end of this stage, the PUI should have been exposed to the basic capabilities and limitations of the F-5 in a maneuvering environment against fighters with similar and dissimilar maneuvering capabilities. The PUI should understand those characteristics sufficiently to be able to continue to develop adversary skills when flying with flight leaders who are not designated instructors. Safe operation and adherence to the training rules shall be strictly enforced.

Crew Requirements. All sorties in stage are flown solo, and are flown with an ACTI / FAI or dissimilar equivalent. BFM 1406 and 1407 require an ACTI (or equivalent) in the dissimiliar aircraft. Due to this requirement and the burden placed on the fleet,the Commanding Officer may defer or waive both flights if it is determined that the PUI has sufficient experience. The requirements for logging deferrals and waivers shall be documented per the Aviation T&R Program Manual, NAVMC 3500.14_.

Academic/Ground Training. The PUI shall complete ACAD-1020 prior to commencing this phase.

BFM Overview

BASIC FIGHTER MANEUVERS (BFM)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
BFM-1401	0.8	*	B,R	D	A	2	Offensive Perch
BFM-1402	0.8	*	B,R	D	A	2	Defensive Perch
BFM-1403	0.8	*	B	D	A	2	1v1 HABFM
BFM-1404	0.8	*	B	D	A	2	1v1 Butterfly HABFM
BFM-1405	0.8	*	B,R	D	A	2	1 v 1 HABFM check
BFM-1406	0.8	*	B,R	D	A	1	Intro 1v1 Dissimilar
BFM-1407	0.8	*	B	D	A	1	1v1 Dissimilar CAT IV

BFM-1401   0.8   *   B,R   D   A   2 F-5N

Goal. Introduce offensive perch BFM in the F-5. (1v1 similar with IP as flight leader). IP review EM diagram with PUI.

Requirement. Perform one Snapshot Drill, and three from 9k, 6k, and 3k respectively.

Performance Standard. Strict adherence to ACM Training Rules (OPNAVINST 3710.7). On at least two of the perch setups, the PUI keeps neutral or better positioning (no role reversal) for at least 45 seconds.

Prerequisite. ACAD-1020, AWI-1301.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

BFM-1402   0.8   *   B,R   D   A   2 F-5N

Goal. Introduce defensive perch BFM in the F-5. (1v1 similar with IP as flight leader). Introduce defensive perch setups in the F-5. Emphasize WEZ recognition by the PUI, and the timely decision to use the correct counter when presented with an IP approaching an imminent WEZ.

Requirement. Perform three BFM perch sets from 9k, 6k, and 3k respectively.

Performance Standard. Strict adherence to ACM Training Rules (OPNAVINST 3710.7). On at least two of the perch setups, the PUI keeps sight of the IP throughout the engagement. During the Guns Defense setup, the PUI must regain sight of the IP after his out-of-plane maneuver. When IP generates an overshoot of the PUI flight path, the PUI must counter to effectively neutralize the attacker's advantage.

Prerequisite. BFM-1401.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

BFM-1403   0.8   *   B   D   A   2 F-5N

Goal. 1v1 HA BFM sets. (1v1 similar with IP as flight leader). Introduce Butterfly and Abeam setups. Emphasize WEZ recognition and counter-maneuvers.

Requirement. Perform one SSD. Perform a minimum of 2 neutral setups to complete this sortie.

Performance Standard. Strict adherence to ACM Training Rules (OPNAVINST 3710.7).

Prerequisite. BFM-1402.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

BFM-1404   0.8   *   B   D   A   2 F-5N

Goal. 1v1 butterfly HABFM sets. Review butterfly setups. Emphasize energy management and AA weapon switchology.

Requirement. Minimum of 2 butterfly sets to complete

Performance Standard. Strict adherence to ACM Training Rules (OPNAVINST 3710.7). On one of the neutral (butterfly) setups, the PUI must deny the IP a Gun WEZ for a minimum of 90 seconds.

Prerequisite. BFM-1403.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

BFM-1405   0.8   *   B,R   D   A   1 F-5N

Goal. 1v1 similar HABFM Review. Safe for dissimilar ACM check. Practice neutral start, similar BFM.

Requirement. Complete a minimum of one beam setup and one butterfly setup.

Performance Standard. PUI is safe for dissimilar 1v1 ACM in the opinion of the ATI.

Prerequisite. BFM-1404.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

BFM-1406   0.8   *   B,R   D   A   1 F-5N

Goal. 1v1 dissimilar BFM vs. any CAT fighter. Introduce dissimilar BFM. Review (with ATI) briefing and debriefing techniques and procedures. Emphasize BFM game plans and training rules.

Requirement. Perform two BFM setups with any dissimilar adversary ACTI / FAI or equivalent.

Performance Standard. Safe operation in the opinion of the instructor (ACTI / FAI or equivalent in dissimilar fighter).

Prerequisite. NATOPS qualified (NTPS-6703). BFM-1405.

If dissimilar fighters are not available consider the dissimilar requirement deferred until the 1800-level or until suitable fighters can be scheduled. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

BFM-1407   0.8   *   B   D   A   1 F-5N

Goal. 1v1 dissimilar BFM vs. CAT IV fighter. Practice dissimilar BFM against a superior fighter aircraft. Review (with ATI) briefing and debriefing techniques and procedures. Emphasize BFM game plans vs. CAT IV fighters. Emphasize training rules.

Requirement. Perform two BFM setups with any CAT IV adversary. An ACTI / FAI or equivalent in the dissimiliar aircraft.

Performance Standard. Safe operation in the opinion of the instructor (ACTI / FAI or equivalent in dissimilar fighter).

Prerequisites. NATOPS qualified (NTPS-6703). BFM-1405.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. One CAT IV dissimilar fighter with ACTI / FAI or equivalent pilot. If dissimilar fighters are not available consider the dissimilar requirement deferred until the 1800-level or until suitable fighters can be scheduled. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

2.9.6 Air-to-Air (AA) Stage

Purpose. The Air-to-Air (AA) stage is designed to give a PUI an introduction to the use of the F-5 as an adversary. At the end of this stage, the PUI will be considered ACM Qualified in the F-5, will move into the Core Skills (2000-Level) Phase, and will be able to fly adversary sorties without an Adversary Tactics Instructor (ATI).

General. This phase is intended to be completed in order, and shall be flown with an ATI. It may be flown concurrently with the AWI stage, with AWI 1702 required before AA-1801. Instructors will place a great deal of

emphasis on both safety (compliance with NATOPS and OPNAV training rules) and compliance with fighter tasking. Additionally, since many of these events will be flown as adversaries for blue fighter training (taking control of the sortie's content out of the instructor's hands), a Core Skill Introduction Air-to-Air Phase Task List (Appendix A) must be completed concurrently with this phase. A copy of the Core Skill Introduction Air-to-Air Phase Task List shall be placed in each PUI's training jacket, and the individual tasks signed off by each instructor as each is performed. This is an additional requirement on top of completion of the gradesheet for each event. The intent of this additional tracking measure is to ensure that each PUI meets the minimum standards for exposure events during this stage. If the stage is complete without completing all of the requirements of the Core Skill Introduction Air-to-Air Phase Task List, the PUI shall be scheduled for additional AA-1806 events until all of the requirements are met.

Crew Requirements. Sorties are flown in section or division, with the PUI solo, and shall be led by an ATI. AA-1602 requires an ACTI / FAI (or equivalent) in the fighter section if flown dissimilar.

Academic/Ground Training. The PUI shall complete ACAD-1030 prior to commencing this phase. ACAD-1031 and 1032 must be complete prior to scheduling for AA-1801.

AA Overview

AIR-to-AIR (AA)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
AA-1601	0.8	*	B,R	D	A	3	1v1v1 Similar
AA-1602	0.8	*	B	D	A	1	1v2 Dissimilar
AA-1603	0.8	*	B	D	A	2	2v1 Dissimilar
AA-1801	0.8	*	B,R	D	A	2	Intro 2vX support
AA-1802	0.8	*	B	D	A	2	Prac 2vX support
AA-1803	0.8	*	B,R	D	A	4	4vX support
AA-1804	0.8	*	B	D	A	2	2vX, non-FRS
AA-1805	0.8	*	B	D	A	2	2vX Tap the CAP
AA-1806	0.8	365	B,R,M	D	A	2	ACM Qual Check Ride

AA-1601   0.8   *   B,R   D   A   3 F-5N

Goal. 1v1v1 similar. Introduce 1v1v1 maneuvering. This event is a stepping stone toward BFM in a multi-bogey environment. Emphasize training rule adherence, WEZ recognition, energy management, and maintaining adequate SA.

Requirement. Begin engagements from BVR and WVR setups (at least one of each).

Performance Standard. Strict adherence to training rules.

Prerequisite. ACAD-1030. BFM-1405.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

AA-1602   0.8   *   B   D   A   1 F-5N

Goal. 1v2 dissimilar. Introduce 1v2 maneuvering as an adversary for the fighters' 2v1 training.

Requirement. Perform a minimum of two engagements with a section of dissimilar fighters. These engagements may be from BVR or visual setups.

Performance Standard. Compliance with training rules and fighter tasking.

Prerequisite. BFM-1406, 1407.

Ordnance. One (1) CATM-9 and ten (10) flares.

Range Requirement. RSTD SFC-FL310.

External Support. Two dissimilar fighters. One member of the flight of two fighters must be an ACTI / FAI (or equivalent). (If dissimilar fighters are not available, CO, VMFT can authorize this sortie to be flown with similar fighters. In this case, consider the dissimilar requirement "deferred" until the 1800-level or until suitable fighters can be scheduled. If flown "similar", ensure that the PUI also logs the TRK-6104 code.) TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

AA-1603　　　0.8　　*　　B　　　　　　　D　　A　　2 F-5N

Goal. 2v1 dissimilar. Introduce 2v1 visual maneuvering against a dissimilar fighter.

Requirement. Perform a minimum of two 2v1 engagements. These engagements can be entered from BVR or visual setups.

Performance Standard. Compliance with training rules. Valid WEZ achieved by one of the members of PUI's flight in 50% of setups.

Prerequisite. BFM-1406, 1407.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. One dissimilar fighter. (If dissimilar fighters are not available, CO, VMFT-401 can authorize this sortie to be flown with similar fighters. In this case, consider the dissimilar requirement "deferred" until the 1800-level or until suitable fighters can be scheduled. If flown "similar", ensure that the PUI also logs the TRK-6104 code). TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

AA-1801　　　0.8　　*　　B,R　　　　　　D　　A　　2 F-5N

Goal. 2vX. Introduce section tactics as an adversary in support of blue air. Practice formation, communication, and RADAR work.

Requirement. Two BVR setups minimum as a wingman. Maintain visual with flight leader.

Performance Standard. Compliance with training rules and fighter tasking.

Prerequisite. ACAD-1031, 1032. AWI-1702, AA-1601 - 1603.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. Minimum one dissimilar fighter. TACTS desired. GCI required.

References. VMFT-401 Sortie Syllabus Guide.

AA-1802　　　0.8　　*　　B　　　　　　　D　　A　　2 F-5F/N

Goal. 2vX. Practice section tactics as an adversary in support of blue air. Practice formation, communication, and RADAR work.

Requirement. Two BVR setups minimum as a wingman in a section.

Performance Standard. Compliance with training rules and fighter tasking. PUI keep sight of lead aircraft.

Prerequisite. AA-1801.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. Minimum two dissimilar fighters. TACTS desired. GCI required.

References. VMFT-401 Sortie Syllabus Guide.

AA-1803   0.8   *   B,R   D   A   4 F-5F/N

Goal. 4vX. Introduce division tactics as an adversary in support of blue air. Introduce division SOP items.

Requirement. Two BVR setups minimum as a wingman in a division.

Performance Standard. Compliance with training rules and fighter tasking. PUI keep sight of lead aircraft.

Prerequisite. AA-1801.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. Minimum of two dissimilar fighters (four desired). TACTS desired. GCI required.

References. VMFT-401 Sortie Syllabus Guide.

AA-1804   0.8   *   B   D   A   2 F-5F/N

Goal. 2vX. Practice section tactics as an adversary with Non-FRS tasking.

Requirement. Two BVR setups minimum as a wingman in a section. This event shall be scheduled in conjunction with fleet support to ensure non-FRS level tasking.

Performance Standard. Compliance with training rules and fighter tasking. PUI keep sight of lead aircraft.

Prerequisite. AA-1801.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. Minimum of two dissimilar fighters. TACTS desired. GCI required.

References. VMFT-401 Sortie Syllabus Guide.

AA-1805   0.8   *   B   D   A   2 F-5F/N

Goal. Introduce 2v2 Tap the Cap (or visual setups)in support of blue air. The intent of this event is to expose the PUI to a Tap the Cap setup as a wingman or as a single. Because of difficulty of scheduling and PUI training timelines, the PTO may substitute a sortie with visual setups, but that should be noted in the PUI's training jacket. Exposure to the Tap the Cap must then happen prior to section lead upgrade (at a minimum).

Requirement. Complete a minimum of two visual attacks on an element of capping fighters. It is desired to have at least one attack as a single ship and at least one attack as a section for the Tap the Cap.

Performance Standard. Compliance with training rules and fighter tasking. Block adherence is mandatory until establishing "tally all." Complete a minimum of one attack as a single and one attack as a section.

Prerequisite. AWI-1702, AA-1602, AA-1603.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. Minimum of two dissimilar fighters. TACTS desired. GCI desired.

References. VMFT-401 Sortie Syllabus Guide.

AA-1806   0.8   365   B,R,M   D   A   2 F-5F/N

Goal. 2-4vX. ACM Qual check ride. Review tactics in the adversary role.

Requirement. PTO shall ensure that the 1000-level Air-to-Air stage requirements are all complete, including the requirements of the Core Skill Introduction Phase Task List, prior to scheduling for this sortie. Additionally, the IP shall conduct a jacket review prior to the brief for this sortie. PUI will complete a minimum of two BVR setups to meet the requirements of this sortie. This event can be completed with PUI as a wingman in a 2 or 4-ship.

Performance Standard. Compliance with training rules and fighter tasking. This check ride will enable the PUI to proceed in the syllabus without the presence of an ATI in the flight, and should therefore demonstrate mastery of the training rules and their application. The PUI should also demonstrate a comprehensive understanding of fighter tasking and use of the F-5 to simulate adversary aircraft and armament.

Prerequisite. AA-1801,1802,1803,1804,1805. AA Phase Task List complete.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. Minimum of two dissimilar fighters. TACTS desired. GCI required.

References. VMFT-401 Sortie Syllabus Guide.

2.8 CORE PHASE (2000)

General. After completing the Core Introduction phase, the PUI will progress to the Core Phase. The focus of this phase is to train the PUI in the skills needed for progression into adversary missions in the 3000 and 4000-level phases of training. These skills will have already been mastered in another aircraft type/model/series, so the training focus in this phase will be on F-5 specifics and the adversary role. Upon completion of this phase, the PUI will understand the F-5's strengths and weaknesses. As the PUI is already ACM Qualified upon completion of the Core Skill Introduction phase, the adversary tasking may be fulfilled in many areas while training in this phase. The training events in this phase also include the Refresher POI events for those pilots who are returning to the squadron after an extended period away. Blue forces are listed below as 'External Support Required', but keep in mind that it is the adversary aircraft (F-5) that is the actual support asset for the Operating Forces' training.

Instructors. Several skills within this phase are built upon those attained in the Core Introduction Phase (FAM, INST, BFM and FI) and therefore do not require an instructor within the event. The other skills (AG, LAT and HA) are considered new skills where an instructor is required for the event if it is the first time the event is flown or if the PUI is no longer current in the skill. Many of these events may also be scheduled in response to specific tasking from aviation or ground units and may be completed while in a support role to attain credit within a syllabus or to maintain proficiency

Phase Overview

CORE PHASE		
STAGE	PARAGRAPH	PAGE NUMBER
ACAD	2.11.1	2-18
FAM	2.11.2	2-18
INST	2.11.3	2-19
AG	2.11.4	2-19
LAT	2.11.5	2-20
HA	2.11.6	2-21
BFM	2.11.7	
FI	2.11.8	

2.9 CORE STAGES

2.9.1 Academics Stage

CORE ACADEMICS (ACAD)		
Training Code	Event	Source
ACAD-2001	MAWTS-1 TACAIR Common ASP, "Low Altitude Tactics"	PTO

2.9.2 Familiarization (FAM) Stage

Purpose. This event is included in the Core Phase primarily to provide flight currency tracking but also as a vehicle to gain currency for the F-5 pilot who is delinquent as defined by the squadron SOP.

Crew Requirements. This sortie is normally flown solo, but can be flown dual with a FAMI at the discretion of the Commanding Officer.

Academic/Ground Training. Compliance with any currency/proficiency paperwork requirements is the responsibility of the individual pilot (immediate action exams, open/closed book tests etc.), assisted by the Operations and Safety Departments.

FAM Overview

FAMILIARIZATION (FAM)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
FAM-2101	0.8	14	B,R,M	D	A	1	FAM

FAM-2101   0.8   14   B,R,M   D   A   1 F-5F/N

Goal. Practice all normal F-5 procedures. This event is used to track basic flight currency, and is scheduled normally for pilots who are not current by squadron SOP.

Requirement. PUI completes sortie from start to shutdown, with a minimum sortie duration of 0.5 flight hours.

Performance Standard. Safe conduct IAW all applicable directives.

Prerequisite. AA-1806.

References. NATOPS Manual.

2.9.3 Instrument (INST) Stage

Purpose. This training event is included in the Core Skills Phase primarily to provide currency tracking for instrument flight rules (IFR) flight. This event will also be used for ferry flights, and for individual pilots who are working toward annual and semi-annual minimums for instrument flight as defined by OPNAVINST 3710.7.

Crew Requirements. This sortie is normally flown solo, either single ship, or in section. It can also be flown dual (in the F-5F) at the discretion of the Commanding Officer.

INST Overview

INSTRUMENT (INST)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
INST-2201	1.0	90	B,R,M	D	A	1	IFR Procedures

INST-2201   1.0   90   B,R,M   D   A   1 F-5F/N

Goal. Practice all normal F-5 IFR procedures. This event is used to track basic instrument flight currency, and is normally scheduled for ferry flights and for periodic instrument training toward annual instrument minimums.

Requirement. PUI completes sortie under IFR conditions for the majority of the sortie. A minimum of 0.5 hours under actual or simulated IFR conditions and one instrument approach must be completed.

Performance Standard. Safe conduct IAW all applicable directives. Compliance with all FARs and OPNAVINST requirements.

Prerequisite. AA-1806.

External Support. An airfield with suitable precision and non-precision approaches available for practice approaches.

References. OPNAVINST 3710.7.

2.9.4 Air-to-Ground (AG) Stage

Purpose. Adversary tasking occasionally encompasses using the F-5 to provide air-to-ground profiles for training of GCE units, MACCS units, and some ACE units. This stage provides the building block for these missions, and provides training that will lead into the Low Altitude Tactics (LAT) and Helo Attack (HA) phases.

General. The F-5 is not equipped with many of the systems that modern fighters use for delivering air-to-ground weapons (HUD, RADALT, computed bombing solutions, etc.). Therefore the focus of this phase is to be able to

simulate air-to-ground profiles safely, with minimum risk to ourselves and our customers. The AG phase will focus on medium altitude delivery profiles.

Crew Requirements. This sortie is normally flown solo or in section and can be combined with LAT-2401. A LATI shall lead this event if it is the first time the event is flown as a part of a basic or refresher syllabus. It can also be flown dual (in the F-5F) at the discretion of the Commanding Officer.

AG Overview

AIR-TO-GROUND (AG)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
AG-2301	0.8	365	B,R,M	D	A	1	Intro / Prac Air-to-Ground profiles

AG-2301   0.8   365   B,R,M   D   A   2 F-5N

Goal. Introduce and/or practice air-to-ground profiles from medium altitude in the F-5.

Requirement. Complete simulated single-ship and section target attacks against stationary targets.

Performance Standard. Safe operation of the F-5.

Prerequisite. AA-1806.

Range Requirement. RSTD SFC-30K

References. VMFT-401 Sortie Syllabus Guide.

2.9.5 Low Altitude Tactics (LAT) Stage

Purpose. The Low Altitude Tactics phase is designed to take a pilot already qualified in LAT in another aircraft, and transition him to the F-5 with its peculiarities. Particular attention should be given to this phase if the PUI has no prior LAT qualifications. The objective is to be able to safely operate the F-5 in the low altitude regime for the purpose of providing adversary support to both ACE, GCE and CSSE units.

General. Completion of this phase will allow safe operation of the F-5 in the low altitude regime as a single ship or in multi-ship formations. Upon initial completion the PUI may be designated LAT Qualified. A LATI shall lead/chase these events if they are the first time the code is flown as a part of the basic or refresher syllabus or a pilot has exceeded LAT currency requirements.

Crew Requirements. These sorties are normally flown solo, in section or with a LATI chase/lead. They can also be flown dual (in the F-5F) at the discretion of the Commanding Officer.

Academic/Ground Training. ACAD-2001 complete prior to scheduling in this phase.

LAT Overview

LOW ALTITUDE TACTICS (LAT)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
LAT-2401	0.8	*	B	D	A	2	Intro/Prac LAT
LAT-2402	0.8	180	B,R,M	D	A	2	Intro HA profiles in LAT environment

LAT-2401   0.8   *   B   D   A   2 F-5N

Goal. Intro or practice F-5 low altitude tactics. Fly chased and in section as a wingman for a PUI in the basic or refresher syllabi.

Requirement. Complete LAT checklist. Demonstrate ability to fly at comfort level as a single ship, to include navigation, turns, ridgeline crossings, dive recovery, and target attacks. Demonstrate ability to fly in section at low altitude, using both combat spread formation (with called turns), and deployed echelon formation. Conduct target attacks in section. This event can be flown in conjunction with AG-2301.

Performance Standard. Full compliance with LAT training rules. Safe operation of the F-5 in the low altitude regime.

Prerequisite. ACAD 2001. AG-2301.

Range Requirement. RSTD SFC-5K.

References. VMFT-401 Sortie Syllabus Guide.

LAT-2402   0.8   180   B,R,M   D   A   2 F-5N

Goal. Intro to helo attack (HA) profiles in the LAT environment. LAT Qualification sortie.

Requirement. Complete LAT checklist. Review LAT procedures in the F-5. Conduct simulated attacks in section on notional RW. Emphasize deconfliction between F-5s and compliance with the restrictions in the FW vs RW ACM training rules. Upon successful completion of this sortie and the recommendation of the LATI the CO may designate the PUI as LAT Qualified.

Performance Standard. Full compliance with LAT training rules. Safe operation of the F-5 in the low altitude regime. Demonstrate understanding of squadron SOP for HA deconfliction.

Prerequisite. LAT-2401.

Range Requirement. RSTD SFC-5K.

References. VMFT-401 Sortie Syllabus Guide.

2.9.6 Helo Attack (HA) Stage

Purpose. The HA stage of the Core Skill phase is designed to provide the PUI with the skills required to safely execute adversary tasking for all missions involving FW vs RW ACM.

General. This stage shall be flown with a LATI. Upon completion of this phase, the PUI will be designated HA Qualified, and will therefore be able to conduct FW vs. RW ACM tasking as an adversary without an instructor in the flight. HA sorties are a significant requirement of the Marine Adversary Program. This stage offers the baseline for RW support standardization, is a building block for the safe execution of these missions, and establishes skills to provide quality instruction for the RW customers.

Crew Requirements. The PUI shall fly these sorties with a LATI. These sorties are normally flown solo in section. HA-2502 can be flown dual (in the F-5F) at the discretion of the commanding officer.

HA Overview

HELO ATTACK (HA)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
LAT-2501	0.8	*	B	D	A	2	2 v 1 HA as Wingman
LAT-2502	0.8	180	B,R,M	D	A	2	1 v 1-2 HA (HA Qual check)

HA-2501   0.8   *   B   D   A   2 F-5N

Goal. Intro HA. 2v1-2 HA as wingman.

Requirement. Complete a minimum of four (4) section attacks on a flight of one or two RW with a LATI in the FW flight.

Performance Standard. Safe operation of the F-5 at low altitude. Strict compliance with ACM training rules.

Prerequisite. LAT-2402. LAT Qualified.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-5K.

External Support. One or two RW. This sortie may be flown as an adversary support sortie for the benefit of the RW training.

References. VMFT-401 Sortie Syllabus Guide.

HA-2502   0.8   180   B,R,M   D   A   2 F-5N

Goal. 1v1-2 HA (chased by LATI). HA Qual check.

Requirement. Complete a minimum of four (4) attacks on one or two RW as a single adversary. This sorti shall be conducted with or chased by a LATI. This event may be conducted in section. Upon successful completion of this sortie and the recommendation of the LATI the CO may designate the PUI as HA Qualified.

Performance Standard. Safe operation of the F-5 at low altitude. Strict compliance with ACM training rules. PUI shall conduct the sortie (in coordination with the RW assets) to provide a quality training opportunity for the RW aircraft (in the opinion of the LATI).

Prerequisite. HA-2501.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-5K.

External Support. One or two RW. This sortie may be flown as an adversary support sortie for the benefit of the RW fighters.

References. VMFT-401 Sortie Syllabus Guide.

2.9.7 Basic Fighter Maneuvers (BFM) Stage

Purpose. The BFM stage of the Core Skills Phase is designed to refine the PUI's skills in maneuvering the F-5 aircraft against both similar and dissimilar adversaries. Use of the F-5 weapons system to simulate a variety of threat weapons systems is the focus of this stage. As in all aspects of the Marine Adversary Program, continued safe operation and compliance with the Air-to-Air training rules as put forth in the OPNAVINST 3710.7 will be stressed. The codes in this stage will provide continued improvement in BFM skills, and provide a means to track an adversary pilot's proficiency.

General. The PUI, having completed the Core Skills Introduction phase, is ACM Qualified before beginning this stage. Therefore, these sorties may be flown without an instructor. The PUI should understand the F-5 characteristics and BFM principles sufficiently and be able to continue to develop his skills when flying with flight leaders who are not designated instructors. Safe operation and adherence to the training rules shall be strictly enforced.

Crew Requirements. All sorties in stage will normally be flown solo and do not require an instructor. A designated Section Lead or higher is required.

BFM Overview

BASIC FIGHTER MANEUVERS (BFM)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
BFM-2601	0.8	30	B,R,M	D	A	2	1 v 1 Similar
BFM-2602	0.8	60	B,R,M	D	A	1	1 v 1 Dissimilar
BFM-2603	0.8	90	B,R,M	D	A	3	1 v 1 v 1 BFM Skills
BFM-2604	0.8	*	B	D	A	1	1 V 2WVR
BFM-2605	0.8	*	B	D	A	2	2 v 1 WVR
BFM-2606	0.8	90	B,R,M	D	A	2	2 v 2 WVR

BFM-2601   0.8   30   B,R,M   D   A   2 F-5N

Goal. 1v1 similar. Practice BFM skills against a similar adversary.

Requirement. Complete at least one visual engagement with another F-5. This engagement can be the result of a BVR setup taken to a merge, or a visual setup. The simulated load out can be any (as designated by the flight leader).

Performance Standard. Safe compliance with ACM training rules.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

BFM-2602   0.8   60   B,R,M   D   A   1 F-5N

Goal. 1v1 dissimilar. Practice BFM skills against a dissimilar adversary.

Requirement. Complete at least one visual engagement with a dissimilar adversary. This engagement can be the result of a BVR setup taken to a merge, or a visual setup. The simulated load out can be any (as designated by the flight leader/fighter lead).

Performance Standard. Safe compliance with ACM training rules. Accurate replication of threat as defined by the blue flight lead (if applicable).

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

BFM-2603   0.8   90   B,R,M   D   A   3 F-5N

Goal. 1v1v1. Practice BFM skills in a three-ship engagement where each of the three is fighting against the other two.

Requirement. Complete at least one visual 1v1v1 engagement. This engagement can be the result of a BVR setup taken to a merge or a visual setup. The simulated load out can be any (as designated by the flight leader/fighter lead).

Performance Standard. Safe compliance with ACM training rules. Maintenance of high situational awareness and clear and concise communication are mandatory.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired. GCI desired for BVR setups.

BFM-2604   0.8   *   B   D   A   1 F-5N

Goal. 1v2 WVR. Practice visual maneuvering against a section of dissimilar fighters.

Requirement. Complete at least one visual engagement against a section of dissimilar fighters. This engagement can be the result of a BVR setup taken to a merge or a visual setup. The simulated load out can be any (as designated by the blue flight leader).

Performance Standard. Safe compliance with ACM training rules.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

BFM-2605   0.8   *   B   D   A   2 F-5N

Goal. 2v1 WVR. Practice section engaged maneuvering against a dissimilar fighter.

Requirement. Complete at least one section visual engagement against a dissimilar fighter. This engagement can be the result of a BVR setup taken to a merge or a visual setup. The simulated load out can be any (as designated by the blue flight leader).

Performance Standard. Safe compliance with ACM training rules.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

BFM-2606   0.8   90   B,R,M   D   A   2   F-5E/N

Goal. 2v2 WVR dissimilar. Practice section engaged maneuvering against a section of dissimilar fighters.

Requirement. Complete at least one section visual engagement against a section of dissimilar fighters. This engagement can be the result of a BVR setup taken to a merge or a visual setup. The simulated load out can be any (as designated by the blue flight leader).

Performance Standard. Safe compliance with ACM training rules.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

2.9.8 Fighter Intercept (FI) Stage

Purpose. The training codes in this stage are used for adversary tasking which involves BVR intercepts (of a tactical nature), but do not incorporate engaged maneuvering. The reasons for using this type of training are varied – maintaining proficiency or regaining currency for the blue fighters, lack of qualified instructors for the flight, weather restrictions due to training rules, or other types of building block training.

General. Any tasking or internal training which results in tactical intercepts without engaged maneuvering would result in using these training codes instead of the 3000-level AA codes. A pilot, having completed the Core Skills Introduction phase, is ACM Qualified before beginning this stage. Therefore, these sorties may be flown without an instructor.

Crew Requirements. Normally, these sorties will be flown solo either as a single ship or in a formation of 2 or more aircraft. These sorties may be flown dual (in the F-5F) at the discretion of the Commanding Officer.

FI Overview

FIGHTER INTERCEPT (FI)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
FI-2701	0.8	90	B,R,M	D	A	1	1 v X Fighter Intercepts
FI-2702	0.8	*	B	D	A	2	2+ v X Fighter Intercepts

FI-2701   0.8   90   B,R,M   D   A   1 F-5N

Goal. 1vX Fighter Intercepts. Conduct single-ship tactical intercepts of a single or flight of multiple other fighters.

Requirement. Complete at least one tactical intercept.

Performance Standard. Training rule adherence (especially establishment of altitude deconfliction with the intercepted flight) is mandatory. Compliance with blue fighter tasking.

Prerequisite. AA-1806.

Range Requirement. Restricted airspace with sufficient altitude to allow for altitude deconfliction between flights. Since full engaged maneuvering is not required, the airspace requirements are minimal.

External Support. GCI desired.

FI-2702   0.8   *   B   D   A   2+ F-5N

Goal. 2+vX Fighter Intercepts. Conduct multi-ship tactical intercepts of a single or flight of multiple other fighters.

Requirement. Complete at least one tactical intercept.

Performance Standard. Training rule adherence (especially establishment of altitude deconfliction with the intercepted flight) is mandatory. Compliance with blue fighter tasking.

Prerequisite. AA-1806.

Range Requirement. Restricted airspace with sufficient altitude to allow for altitude deconfliction between flights. Since full engaged maneuvering is not required, the airspace requirements are minimal.

External Support. GCI desired.

2.10 MISSION PHASE

General These training events are designed to be in support of USMC and other DOD service training. The main reason for tracking the types of missions that an adversary pilot has flown is to manage progression through advanced qualifications (as a flight leader and instructor). Blue forces are listed below as 'External Support Required', but keep in mind that it is the adversary aircraft (F-5) that is the actual support asset for the Operating Forces' training. The Marine adversary squadron will schedule its pilots for these events based on the Fleet's requirements, vice scheduling these events for the adversary pilot's requirements.

Instructors. The skills within this phase are built upon those attained in the Core Introduction and Core Phases (AA, HA and SA) and therefore do not require an instructor within the event. These events will be scheduled in response to specific tasking from aviation or ground units and may be completed while in a support role to attain credit within a syllabus or to maintain proficiency.

Phase Overview

MISSION PHASE		
STAGE	PARAGRAPH	PAGE NUMBER
AA	2.13.1	2-25
HA	2.13.2	2-27
SA	2.13.3	2-28
CC	2.13.4	2-28

2.11 MISSION STAGES

2.11.1 Air-to-Air (AA) Stage

Purpose. The Air-to-Air stage of the Mission Skill phase encompasses the large majority of events for which a professional adversary capability exists. Tracking these codes provides the adversary squadron an ability to track the experience and exposure of its pilots with a mind toward managing the progression of its pilots through advanced qualifications (as a flight leader and instructor).

General. The flight events in this stage are based on the number of aircraft on the red and blue sides of a fight. The types of tasking and adversary simulation will be captured by tracking codes in the 6000-level.

Crew Requirements. All sorties in stage will normally be flown solo, and do not require an instructor. Specific events such as an ATI requirement because of a blue air training requirement (i.e. dissimiliar single aircraft ACMQ work up events) will be scheduled accordingly at the squadron level.

AA Overview

AIR-TO-AIR (AA)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
AA-3101	0.8	90	B,R,M	D	A	2	2 v 2 Dissimilar
AA-3302	0.8	*	B	D	A	2	2 v 3+ Disssimilar
AA-3303	0.8	*	B	D	A	3-4	3/4 v 2 Dissimilar
AA-3304	0.8	120	B,R,M	D	A	3-4	3/4 v 3+ Dissimilar
AA-3305	0.8	365	B,R,M	D	A	5	5 or more v X Dissimilar

AA-3101	0.8	90	B,R,M		D	A	2 F-5F/N

Goal. 2v2 dissimilar. Practice section ACM versus a section of dissimilar fighters.

Requirement. Complete a minimum of one BVR ACM setup.

Performance Standard. Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL400.

External Support. 2 dissimilar fighters. TACTS desired. GCI required.

AA-3102   0.8   *   B   D   A   2 F-5F/N

Goal. 2v3+ dissimilar. Practice section ACM versus a flight of three or more dissimilar fighters.

Requirement. Complete a minimum of one BVR ACM setup.

Performance Standard. Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL400.

External Support. 3 or more dissimilar fighters. TACTS desired. GCI required.

AA-3103   0.8   *   B   D   A   3-4 F-5F/N

Goal. 3-4v2 dissimilar. Practice division ACM tactics against a section of dissimilar fighters.

Requirement. Complete a minimum of one BVR ACM setup, with a flight of 3-4 F-5s against a section of dissimilar fighters.

Performance Standard. Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL400.

External Support. 2 dissimilar fighters. TACTS desired. GCI required.

AA-3104   0.8   120   B,R,M   D   A   3-4 F-5F/N

Goal. 3-4v3+ dissimilar. Practice division ACM tactics against a division of dissimilar fighters.

Requirement. Complete a minimum of one BVR ACM setup, with a flight of 3-4 F-5s against a flight of at least 3 dissimilar fighters.

Performance Standard. Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL400.

External Support. 3 or more dissimilar fighters. TACTS desired. GCI required.

AA-3105   0.8   365   B,R,M   D   A   5+ F-5F/N

Goal. 5 or more v X dissimilar. Practice multi-flight ACM tactics against dissimilar fighters. Ideally, the red air (F-5 force) for this sortie is multi-division, but a single heavy division of 5 or more, employed as two or more groups, is sufficient to complete this training event.

Requirement. Complete a minimum of one BVR ACM setup, with a flight of 5 or more F-5s against any flight of dissimilar fighters.

Performance Standard. Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL400.

External Support. Dissimilar fighters. TACTS desired. GCI required.

2.11.2 Helo Attack (HA) Stage

Purpose. The Helo Attack (HA) stage of the Mission Skill (3000-level) phase exists to provide training events that allow the F-5 pilot to fill tasking requirements from the Operating Forces in the area of FW vs. RW ACM. These events also allow the Marine Adversary squadron to track the experience and exposure of its pilots with a mind toward managing their progression through advanced qualifications (as a flight leader and instructor).

General. The differences in the requirements for the events in this stage are due to the numbers of aircraft involved (one or two F-5s versus one or two RW fighters).

Crew Requirements. All F-5 pilots in the Helo Attack (HA) stage of the Mission Skills (3000-level) phase will already be HA Qualified and therefore do not need to have an instructor (LATI) in the flight. The sorties in this stage will normally be flown solo as a single ship or in a section, but may be flown dual (in the F-5F) at the discretion of the Commanding Officer.

HA Overview

HELO ATTACK (HA)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
HA-3201	0.8	180	B,R,M	D	A	1	1 v 1 HA
HA-3202	0.8	*	B	D	A	1	1 v 2 HA
HA-3203	0.8	*	B	D	A	2	2 v 2 HA

HA-3201   0.8   180   B,R,M   D   A   1 F-5F/N

Goal. 1v1 HA. Practice FW vs. RW ACM as a single F-5 against a single helicopter.

Requirement. Complete at least two simulated attacks/engagements as a single ship against a single helicopter.

Performance Standard. Flight shall be conducted IAW the FW vs. RW ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. HA-2502.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-5K.

External Support. One helicopter. The normal reason for completing this training event is to support the RW fighter requirements.

HA-3202   0.8   *   B   D   A   1 F-5F/N

Goal. 1v2 HA.

Requirement. Complete at least two simulated attacks/engagements as a single ship against a section of RW.

Performance Standard. Flight shall be conducted IAW the FW vs. RW ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. HA-2502.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-5K.

External Support. Two RW. The normal reason for completing this training event is to support the RW fighter requirements.

HA-3203   0.8   *   B   D   A   2   F-5F/N

Goal. 2v2 HA.

Requirement. Complete at least two simulated attacks/engagements as a section against a section of RW.

Performance Standard. Flight shall be conducted IAW the FW vs. RW ACM training rules in OPNAVINST 3710.7.
Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. HA-2502.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-5K.

External Support. Two RW. The normal reason for completing this training event is to support the RW fighter
requirements.

2.11.3 Surface Attack (SA) Stage

Purpose. The training event in this stage is to allow adversary pilot to support tasking for attack of surface targets.
This type of tasking is often required by elements of the GCE, CSSE (convoy training), and ACE (MACCS and
ground-based air defenses training). This event will be flown in support of those units' training requests, and not
necessarily for the training of the F-5 pilots.

General. No instructor support is required for this event. Tasking will be received from the requesting unit.

Crew Requirements. This sortie will normally be flown solo, as a single ship or as part of a formation of two or
more aircraft. It can be flown dual (in the F-5F) at the discretion of the Commanding Officer.

SA Overview

SURFACE ATTACK (SA)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
SA-3301	0.8	365	B,R,M	D	A	1	Surface Attack

SA-3301   0.8   365   B,R,M   D   A   1+ F-5F/N

Goal. 1 or more F-5s conduct Surface Attack with AI-type tasking.

Requirement. Two or more attacks on fixed sites which are in known or unknown locations.

Performance Standard. Compliance with supported unit's tasking.

Prerequisite. AG-2301.

Range Requirement. RSTD SFC-20K.

External Support. UHF Communication with supported unit is desired.

2.11.4 Command and Control (CC) Stage

Purpose. Command and Control (C2) is a supporting function for both blue and red aviation assets engaging in
AAW type training. C2 training is normally conducted concurrently with the blue and red missions. Since the
control of aircraft is an inherent requirement for most adversary missions. Support provided to a C2 unit would be
scheduled as a FI, AA or AAW mission.

General. No instructor support is required for this event. Tasking will be received from the requesting unit.

Crew Requirements. This sortie will normally be flown solo, as a single ship or as part of a formation of two or
more aircraft. It can be flown dual (in the F-5F) at the discretion of the Commanding Officer.

CC Overview

COMMAND AND CONTROL (CC)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
SA-3401	0.8	365	B,R,M	D	A	1	Command and Control

CC-3401   0.8   365   B,R,M   D   A   1 F-5F/N

Goal. Practice adversary missions were the training of any Command and Control agency or person is being conducted.

Requirement. Complete a minimum of one ACM run where an airborne or ground based controller is receiving initial, refresher or proficiency training.

Performance Standard. Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that controllers under training are briefed and debriefed on the mission and that the control was adequate and consistent with the mission executed. Controller training may be completed independently of, or simultaneously with any other adversary mission.

Prerequisite. None

External Support. GCI/AIC required.

2.12 CORE PLUS PHASE

General. This training includes skills which are not often requested. The intent of these training events is for the Marine Adversary community to have the ability to meet more complex tasking from the Operating Forces when it is requested. These events represent participation in training events which happen less often and are more complex than the normal day-to-day mission tasking. Blue forces are listed below as 'External Support Required', but keep in mind that it is the adversary aircraft (F-5) that is the actual support asset for the Operating Forces' training.

Instructors. The majority of the skills within this phase are built upon those attained in the previous Phases (AA, AAW, HA, and SA) and therefore do not require an instructor within the event. These events are scheduled in response to specific tasking from aviation or ground units and may be completed while in support role to attain credit within a syllabus or to maintain proficiency. Only the first five events within the NSPT stage (NSPT 4501-4505) are considered new skills and are required to be flown with a night current ATI for any PUI attaining initial or refresher syllabus credit.

MISSION PHASE		
STAGE	PARAGRAPH	PAGE NUMBER
ACAD	2.15.1	2-29
AA	2.15.2	2-29
AAW	2.15.3	2-30
HA	2.15.4	2-31
SA	2.15.5	2-32
NSPT	2.15.5	2-32

2.13 CORE PLUS STAGES

2.13.1 Academics (ACAD). The following table lists the academic events and associated training codes which apply to the Core Plus Phase.

ACADEMICS (ACAD)		
Training Code	Event	Source
ACAD-4001	Brief on Night Procedures with a night current ATI	ATI

2.13.2 Air-to-Air (AA) Stage

Purpose. The Air to Air stage of the Core Plus phase applies to the more complex training requirements from the Fleet, specifically the employment as a part of a mixed red air package. It is important that the Marine Adversary program maintain an ability to fulfill this type of tasking, so that the Operating Forces' Core Plus training requirements can be met when they are requested.

General. The flight events in this stage are based on the number of aircraft on the red and blue sides of a fight. The types of tasking and adversary simulation will be captured by tracking codes in the 6000-level.

Crew Requirements. These events will normally be flown solo, as part of a large formation of aircraft. They can be flown dual (in the F-5F) at the discretion of the Commanding Officer.

AA Overview

SURFACE ATTACK (SA)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
AA-4101	0.8	365	B,R,M	D	A	2	Mixed Large Force
AA-4102	0.8	365	B	D	A	2	Mixed Large Force

AA-4101   0.8   365   B,R,M   D   A   2+ F-5F/N

Goal. Mixed red air against a large blue force. Practice complex tactics as part of a mixed red-air presentation (up to 7 mixed red air) against a blue force.

Requirement. Complete at least one setup as part of a mixed (multiple aircraft type) red air force (which includes a minimum of 2 F-5s and some number of other bandits (up to 7 bandits in total)) against a large blue air force.

Performance Standard. Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL400.

External Support. TACTS desired. GCI required. Additional red forces from non-F-5 unit. Dissimilar fighters.

AA-4102   0.8   *   B   D   A   2+ F-5F/N

Goal. Mixed red air against a large blue force. Practice complex tactics as part of a mixed red-air presentation (8 or more mixed red air) against a blue force.

Requirement. Complete at least one setup as part of a mixed (multiple aircraft type) red air force (which includes a minimum of 2 F-5s and some number of other bandits (8 or more bandits in total)) against a large blue air force.

Performance Standard. Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL400.

External Support. TACTS desired. GCI required. Additional red forces from non-F-5 unit. Dissimilar fighters.

2.13.4 Anti-Air Warfare (AAW) Stage

Purpose. This stage includes training events used to meet adversary tasking involving participation in an integrated air defense system (IADS) as a fighter element. This training is normally in support of Operating Forces' training requirements, and will normally be flown only when tasked by those Operating Forces.

General. Participation in an IADS will often involve training and planning in conjunction with elements of the MACCS and the associated Marine and Joint Force ground-based air defense systems. This training and planning is often part of the adversary tasking which does not rate a training code, but is vitally important for the supported units' training.

Crew Requirements. The flying portion of these events will normally be flown solo as part of a larger flight of fighter aircraft. These events may be flown dual (in the F-5F) at the discretion of the Commanding Officer.

AAW Overview

ANTI-AIR WARFARE (AAW)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
AAW-4201	0.8	365	B,R,M	D	A	2	2+ v X
AAW-4202	0.8	*	B	D	A	2	4+ v 2

AAW-4201   0.8   365   B,R,M   D   A   2+ F-5F/N

Goal. As part of an IADS, conduct 2+ v X. Practice ACM tactics as a section or more of F-5s in conjunction with an IADS, either employing FEZ/MEZ or JEZ doctrine.

Requirement. Participate in a VUL period as an airborne air defense asset participating in an IADS. Planning, briefing, and debriefing support shall be provided to the supported unit as required.

Performance Standard.   Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL400.

External Support. IADS assets in place. Dissimilar fighters. TACTS desired. GCI required. RTO required.

AAW-4202   0.8   *   B   D   A   2+ F-5F/N

Goal. As part of an IADS, conduct 4+ (2 or more F5s + 2 or more mixed Red Air) v X. Practice ACM tactics as a section or more of F-5s, combined with a section or more of other TMS aircraft, in conjunction with an IADS, either employing FEZ/MEZ or JEZ doctrine.

Requirement. Participate in a VUL period as a mixed-aircraft type airborne air defense asset participating in an IADS. Planning, briefing, and debriefing support shall be provided to the supported unit as required.

Performance Standard.   Flight shall be conducted IAW the ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. AA-1806.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL400.

External Support. IADS assets in place. Additional Red Air (non-F-5) required. Dissimilar fighters. TACTS desired. GCI required. RTO required.

2.13.5 Helo Attack (HA) Stage

Purpose. This stage includes a training code for the FW vs RW ACM tasks that are asked for less frequently and involve tactics against an unknown-sized force of RW.

General. While this is the least-requested FW vs. RW ACM training support, the professional adversary community must be prepared to provide this support to the Operating Forces when it is requested.

Crew Requirements. This sortie will normally be flown solo, as a single ship or as part of a formation of three or more aircraft. It can be flown dual (in the F-5F) at the discretion of the Commanding Officer.

Phase Overview

ANTI-AIR WARFARE (AAW)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
HA-4301	0.8	365	B,R,R	D	A	2	HA with 2 or more F-5s

HA-4301   0.8   365   B,R,M   D   A   2+ F-5F/N

Goal. HA with 2 or more F-5s vs X RW.

Requirement. Complete at least two simulated attacks/engagements against an unknown-sized force of RW.

Performance Standard. Flight shall be conducted IAW the FW vs RW ACM training rules in OPNAVINST 3710.7. Flight leads shall ensure that threat simulation/replication is in accordance with the blue air tasking.

Prerequisite. HA-2502.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-5K.

External Support. 3+ RW.

2.13.6 Surface Attack (SA) Stage

Purpose. The training event in this stage allows adversary pilots to support tasking for attack of surface targets in a Close Air Support (CAS)-type environment. This type of tasking will most often be required by TACP elements of the GCE and CSSE and FAC(A) training for the ACE. This event will be flown in support of those units' training requests, and not necessarily for the training of the F-5 pilots.

General. Tasking will be received from the requesting unit.

Crew Requirements. This sortie will normally be flown solo, as a single ship or as part of a formation of two or more aircraft. It can be flown dual (in the F-5F) at the discretion of the Commanding Officer.

SA Overview

SURFACE ATTACK (SA)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
SA-4401	0.8	365	B,R,R	D	A	1+	Sim CAS for FAC or FAC(A)

SA-4401   0.8   365   B,R,M   D   A   1+ F-5F/N

Goal. One or more F-5s perform simulated CAS for FAC or FAC(A) training.

Requirement. Two or more attacks on fixed sites at the direction of a forward air controller (ground based or airborne), employing JCAS procedures.

Performance Standard. Compliance with supported unit's tasking.

Prerequisite. AG-2301.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-20K.

External Support. Supported unit will provide forward air controller.

References. JCAS Manual.

2.13.7 Night Support (NSPT) Stage

Purpose. The events in this stage are meant to allow an adversary pilot to train for and subsequently support tasking at night. Six adversary pilots will be expected to attain and maintain night currency IAW OPNAVINST 3710.7 due to the irregular night tasking expected and associated increase in unit training/proficiency over head. This training is normally in support of Operating Forces' training requirements. In the absence of regular night tasking, the first five events may be rescheduled to maintain night proficiency for squadron pilots who have previously completed the POI.

General. The first five events are intended to be completed in order. NSPT 4503-4505 shall be flown with and evaluated by a night current ATI as the flight lead if conducted for the first time as part of the initial or refresher syllabi. The remaining three events are in support of the tasking received from Operating Forces and will normally

be flown only when tasked by those Operating Forces. By the end of the five training events within this stage and with the attainment of OPNAV night currency, the PUI should be competent to safely operate the F-5 series aircraft at night, as a single ship or in section.

Crew Requirements. These sorties will normally be flown solo, as a single ship or as part of a formation of two aircraft. It can be flown dual (in the F-5F) at the discretion of the Commanding Officer. NSPT 4503-4505 shall be flown with a night current ATI as the flight lead if flown for the first time as part of the initial or refresher syllabi.

Academic/Ground Training. PUI shall complete ACAD-4001.

NSPT Overview

NIGHT SUPPORT (NSPT)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
NSPT-4501	0.8	30	B,R,M	N	A	1	F-5 Night Procedures
NSPT-4502	1.0	*	B,R	N	A	1	IFR Night Procedures
NSPT-4503	0.8	*	B,R	N	A	2	Section FORM
NSPT-4504	0.8	*	B,R	N	A	2	1 v 1 Similar
NSPT-4505	0.8	*	B,R	N	A	2	2 v X Fighter Intercepts
NSPT-4506	0.8	*	B	N	A	1	1 v X Dissimilar
NSPT-4507	0.8	*	B	N	A	2	2 v X Dissimilar
NSPT-4508	0.8	*	B	N	A	2	2 v X Dissimilar Intercepts

NSPT-4501   0.8   30   B,R,M   N   A   1 F-5F/N

Goal. Practice all normal F-5 procedures at night. This event is used to track basic night currency, and is normally scheduled for pilots who are not night current by squadron SOP. It may also be scheduled for pilots needing to maintain or update night proficiency/currency.

Requirement. Complete a night sortie from start to shutdown, with a minimum sortie duration of 0.5 flight hours.

Performance Standard. Safe conduct IAW all applicable directives.

Prerequisite. AA-1806, ACAD-4001.

Range Requirement. RSTD airspace 6k-25k MSL.

References. VMFT-401 Sortie Syllabus Guide. NATOPS Manual.

NSPT-4502   1.0   *   B,R   N   A   1 F-5F/N

Goal. Practice all normal F-5 IFR procedures at night. This event updates basic instrument and night flight currency, and is normally scheduled for ferry flights and training towards annual minimums or night training/currency. It may also be scheduled for pilots needing to maintain or update night proficiency/currency.

Requirement. Complete a sortie under night conditions for the majority of the sortie. A minimum of 0.5 night hours and one instrument approach must be completed.

Performance Standard. Safe conduct iaw all applicable directives. Compliance with all FARs and OPNAVINST requirements.

Prerequisite. NSPT-4501.

References. VMFT-401 Sortie Syllabus Guide. OPNAVINST 3710.7.

NSPT-4503   0.8   *   B,R   N   A   2 F-5F/N

Goal. Practice 2 ship F-5 formation procedures at night. This event is used to train and practice section formation principles. It may also be scheduled for pilots needing to maintain or update night proficiency/currency.

Requirement. Complete a night sortie from start to shutdown, with a minimum sortie duration of 0.5 flight hours.

Performance Standard. Safe conduct IAW all applicable directives. Two (2) medium altitude break-up and rendezvous and two (2) TACAN rendezvous required for completion.

Prerequisite. NSPT-4502.

Range Requirement. RSTD airspace 6k-25k MSL.

References. VMFT-401 Sortie Syllabus Guide. NATOPS Manual.

NSPT-4504   0.8   *   B,R   N   A   2 F-5N

Goal. 1v1 similar (F-5 vs F-5) intercepts at night. Conduct single-ship tactical intercepts of a single fighter at night. It may also be scheduled for pilots needing to maintain or update night proficiency/currency.

Requirement. Complete a night sortie from start to shutdown, with a minimum sortie duration of 0.5 flight hours. Complete four FQ intercepts (two with lookdown and two with lookup).

Performance Standard. Achieve RADAR situational awareness at tactically significant ranges and conduct intercept to valid weapons employment at least 50% of the time. Training rule adherence (especially establishment of altitude deconfliction with the intercepted flight) is mandatory.

Prerequisite. NSPT-4503.

Range Requirement. Restricted airspace with sufficient altitude to allow for altitude deconfliction between flights.

External Support. TACTS desired. GCI desired.

References. VMFT-401 Sortie Syllabus guide.

NSPT-4505   0.8   *   B,R   N   A   2 F-5N

Goal. 2vX fighter intercepts at night. Conduct section tactical intercepts of a single or flight of other F-5s. This event may be completed as a 2v2 internal event where wingmen of each section are receiving initial credit for the code. This event may also be conducted as a 2v1 similar for the wingman in the section, at the discretion of the CO. It may also be scheduled for pilots needing to maintain or update night proficiency/currency.

Requirement. Complete two FQ intercepts.

Performance Standard. Complete a night sortie from start to shutdown, with a minimum sortie duration of 0.5 flight hours. Achieve RADAR situational awareness at tactically significant ranges and conduct intercept to valid weapons employment at least 50% of the time. Training rule adherence (especially establishment of altitude deconfliction with the intercepted flight) is mandatory.

Prerequisite. NSPT-4504.

Range Requirement. Restricted airspace with sufficient altitude to allow for altitude deconfliction between flights.

External Support. TACTS desired. GCI desired.

References. VMFT-401 Sortie Syllabus guide.

NSPT-4506   0.8   *   B   N   A   1 F-5N

Goal. 1vX dissimiliar tactical intercepts at night. Conduct single-ship, single group tactical intercepts at night against an unknown number of fighters.

Requirement. Complete at least one tactical intercept at night in support of blue tasking.

Performance Standard. Training rule adherence (especially establishment of altitude deconfliction with the intercepted flight) is mandatory. Threat simulation/replication in accordance with the blue air tasking.

Prerequisite. NSPT-4505 and night current per squadron SOP.

Ordnance. One (1) CATM-9.

Range Requirement. Restricted airspace with sufficient altitude to allow for altitude deconfliction between flights.

External Support. Dissimilar fighters. TACTS desired. GCI desired.

NSPT-4507   0.8   *   B   N   A   2 F-5N

Goal. 2vX dissimiliar tactical intercepts at night. Conduct section tactical intercepts of a flight or of multiple flights of dissimiliar fighters. The intent of this is to provide a single group presentation of no more than 2 F5s against an unknown number of fighters.

Requirement. Complete at least one tactical intercept at night in support of blue tasking.

Performance Standard. Training rule adherence (especially establishment of altitude deconfliction with the intercepted flight) is mandatory. Threat simulation/replication in accordance with the blue air tasking.

Prerequisite. NSPT-4505 and night current per squadron SOP.

Ordnance. One (1) CATM-9 per aircraft.

Range Requirement. Restricted airspace with sufficient altitude to allow for altitude deconfliction between flights.

External Support. Dissimilar fighters. TACTS desired. GCI desired.

NSPT-4508   0.8   *   B   N   A   2+ F-5N

Goal. 2+vX dissimiliar tactical intercepts at night. Conduct coordinated multi-section or multi-element (as singles or sections) tactical intercepts of an unknown number of fighters. The intent of this is to present at least a two group picture while operating in no more than two ship coordinated elements.

Requirement. Complete at least one tactical intercept at night in support of blue tasking.

Performance Standard. Training rule adherence (especially establishment of altitude deconfliction with the intercepted flight) is mandatory. Threat simulation/replication in accordance with the blue air tasking.

Prerequisite. NSPT-4505 and night current per squadron SOP.

Ordnance. One (1) CATM-9 per aircraft.

Range Requirement. Restricted airspace with sufficient altitude to allow for altitude deconfliction between flights.

External Support. Dissimilar fighters. TACTS desired. GCI required.

2.14 INSTRUCTOR TRAINING PHASE (5000)

Phase Overview

INSTRUCTOR TRAINING PHASE		
STAGE	PARAGRAPH	PAGE NUMBER
LATI	2.15.1	2-35
FAMI	2.15.2	2-36
ATI	2.15.3	2-38
Advanced Adversary (General)	2.15.4	2-140
WTI	2.15.4.1	2-40
MDTC	2.15.4.2	2-40
NFWS	2.15.4.3	2-40

2.15 INSTRUCTOR TRAINING STAGES

2.15.1 Low Altitude Tactics Instructor (LATI) POI

Purpose. To certify pilots capable of instructing in F-5 Low Altitude Tactics (LAT) and FW vs. RW (Helo Attack (HA)) adversary support missions. As such, a designated LATI shall be capable of conducting classroom and airborne instruction in the use of an F-5 as a low altitude threat simulator, general low altitude tactical concepts, F-5 maneuvering envelopes, air to ground target attack profiles and RW attack profiles. A LATI fulfills the safety, ORM and leadership requirements per T&R Program Manual, OPNAVINST 3710.7 and unit Standard Operating Procedures.

General. Prospective LATIs ((P)LATI) are nominated by the Stan Board and approved by the Commanding Officer. The following minimum POI shall be completed in order to prepare for designation as a LATI. Each flight event shall be evaluated by a designated LATI. Meeting the performance standards and receiving a positive endorsement from the sortie evaluator allows the (P)LATI to move on to the next event. Individuals may be designated as a LATI by the Commanding Officer after successful completion of all events.

Prerequisites. The (P)LATI must be at least a designated Division Lead.

Academic/Ground Training. All requirements delineated in the matrix below shall be completed prior to commencing the flight syllabus.

TRAINING CODE	EVENT	Source
ACAD-5011	USMC T&R Program Manual – LAT Training Rules	PTO
ACAD-5012	MAWTS-1 TACAIR Common ASP – "Low Altitude Training"	PTO

LATI Overview

LOW ALTITUDE TACTICS INSTRUCTOR (LATI)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
LATI-5101	0.8	*	B,R	D	A	2	Evaluate (P)LATI
LATI-5102	0.8	*	B,R	D	A	2	Evaluate (P)LATI

LATI-5101   0.8   *   B,R   D   A   2 F-5N/F

Goal. Evaluate the (P)LATI's ability to safely and effectively conduct and control single ship LAT from a chase position and section LAT as the lead. The PUI should emphasize deconfliction and attack considerations focusing on F-5 specific differences to other platforms and F-5 missions involving LAT.

Requirement. Conduct LAT circuit warm-up as required and two follow-on LAT circuits on an approved range. Perform first LAT circuit with (P)LATI as chase to a single ship chased target attack. Perform second LAT circuit as a section with (P)LATI as lead. All LAT circuits should include terrain masking, navigation turns (check, tac, in-place, and cross turns), defensive turns (hard and break), ridgeline crossings and a target attack.

Performance Standard. Effectively and safely brief, lead and debrief a LAT mission. Effectively manage terrain avoidance, wingman, time, airspace and target attacks as flight lead and chase. Complete two LAT circuits and all required items.

Prerequisite. ACAD-5011 and 5012.

Range Requirement. RSTD SFC-5K.

References. VMFT-401 Sortie Syllabus Guide.

LATI-5102   0.8   *   B,R   D   A   2 F-5N/F

Goal. Evaluate the (P)ATI's ability to safely and effectively conduct section LAT and 2vX Helo Attack (HA) as the lead. The PUI should emphasize deconfliction, attack considerations on a moving target and how to employ the F-5 in the HA adversary mission.

Requirement. Conduct one section LAT circuit on an approved LAT range, completing the section LAT required items from LATI-5201. Conduct simulated 2vX HA mission on a set of stationary targets. HA profiles should include forward quarter, beam and rear quarter section attack profiles. HA re-attack profiles should include arcing, BVR extension and vertical re-attacks.

Performance Standard. Effectively and safely brief, lead and debrief a simulated HA mission. Effectively manage terrain avoidance, wingman, time, airspace and simulated helo attacks as flight lead. Complete one LAT circuit and three HA profiles (one of each attack and re-attack combinations).

Prerequisite. LATI-5101.

Range Requirement. RSTD SFC-5K.

References. VMFT-401 Sortie Syllabus Guide.

2.15.2 Familiarization Instructor (FAMI) POI

Purpose. To qualify pilots capable of instructing new F-5 transition pilots in the FAM stage of the Core Skill Introduction phase of training. As such, a FAMI shall be capable of conducting ground and airborne instruction in unit SOP, T&R syllabus, F-5 systems, flight characteristics, landing techniques, aircraft limitations, and NATOPS procedures. A FAMI fulfills the safety, ORM and leadership requirements per T&R Program Manual, OPNAVINST 3710.7 and unit Standard Operating Procedures.

General. Prospective FAMIs ((P)FAMI) are nominated by the Stan Board and approved by the Commanding Officer. The following minimum POI shall be completed in order to prepare them for designation as a FAMI. All events shall be evaluated by a designated FAMI. The (P)FAMI shall complete 2 flight sorties in an F—5F, instructing from the rear cockpit. The evaluator shall act as a new F-5 transition pilot and fly from the front cockpit. Meeting the performance standards and receiving a positive endorsement from the sortie evaluator allows the (P)FAMI to move on to the next event. Individuals may be designated as a FAMI by the Commanding Officer after successful completion of all events.

Prerequisites. A designated NATOPS Instructor or Assistant NATOPS Instructor.

Academic/Ground Training. All requirements delineated in the matrix below shall be completed prior to commencing the flight syllabus.

TRAINING CODE	EVENT	DATE COMPLETE
ACAD-5021	Observe Ground School given by FAMI	FAMI
ACAD-5022	VMFT-401 Lecture, "FAMI Instructional Techniques"	FAMI

FAMI Overview

FAMILIARIZATION INSTRUCTOR (FAMI)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
FAMI-5201	1.0	*	B,R	D	A	1	FAMI Eval
FAMI-5202	1.0	*	B,R	D	A	1	FAMI Eval

FAMI-5201   1.0   *   B,R   D   A   1 F-5F

Goal. Evaluate the (P)FAMI's ability to safely and effectively instruct in F-5 ground and airborne procedures, flight characteristics, limitations and the landing pattern from the aft cockpit (designated FAMI evaluator acting as PUI from the front seat). (P)FAMI instructs from the aft cockpit. Instructional emphasis placed on flying quality differences and how to land and flare the F-5.

Requirement. Conduct a FAM instructional sortie in an F-5F. Conduct normal ground operations, A/B takeoff and normal range entry procedures. Aerobatics to include: aileron roll, rudder roll, half-cuban eight, loop, immelman and split-s. (P)FAMI demonstrate and then evaluate IPH maneuver. Introduce ((P)FAMI instructing) pushover, clean and dirty stall recoveries, engine shutdown and re-start, and emergency gear extension. Conduct field entry to landing pattern to complete a minimum of five full flap landings from the backseat and evaluate at least two completed by the FAMI (front seat).

Performance Standard.   Safe and effective conduct of a FAM instructional sortie. (P)FAMI should be able to safely land from the aft cockpit, instruct a PUI in the landing pattern, aerobatics and ensure safe recoveries from all maneuvers. (P)FAMI should be able to effectively brief and debrief all items in-flight and in the classroom.

Prerequisite. ACAD-5021 and 5022.

Range Requirement. RSTD SFC-FL300.

References. VMFT-401 Sortie Syllabus Guide.

FAMI-5202   1.0   *   B,R   D   A   1 F-5F

Goal. Evaluate the (P)FAMI's ability to safely and effectively instruct in F-5 ground and airborne procedures, flight characteristics, limitations and the landing pattern from the aft cockpit (designated FAMI evaluator acting as PUI from the front seat). (P)FAMI instructs from the aft cockpit. Instructional emphasis placed on flying quality differences in single engine and no flap scenarios.

Requirement. Conduct a FAM instructional sortie in an F-5F. Conduct normal ground operations, A/B takeoff and normal range entry procedures. Aerobatics to include: loop, immelman and split-s. PUI complete IPH, pushover and dirty stall recoveries. Practice ((P)FAMI instructing) aerobatics, engine shutdown, engine re-start and emergency gear extension. Conduct field entry to a PAR/ ASR simulated single engine (SE) and simulated SE wave off. Complete instruction in no flap landings and practice full flap landings. Complete a minimum of three landings from the back seat and evaluate at least two completed by the FAMI (front seat).

Performance Standard. Safe and effective conduct of a FAM instructional sortie. (P)FAMI should be able to safely land from the aft cockpit, instruct in the landing pattern, instruct in aerobatics and ensure safe recoveries from all maneuvers. (P)FAMI should be able to effectively brief and debrief all items in-flight and in the classroom.

Prerequisite. FAMI-5201.

Range Requirement. RSTD SFC-FL300.

References. VMFT-401 Sortie Syllabus Guide.

2.15.3 Adversary Tactics Instructor (ATI) POI

Purpose. The ATI Qualification is designed as the primary instructor in all phases of the F-5 syllabus as defined in this order. As such, the ATI shall be capable of conducting classroom and airborne instruction in flying the F-5, performing the adversary mission, and simulation of threat aircraft and weapons systems using the F-5. The second major purpose of the ATI qualification program is defined in the Training and Readiness Program Manual -- to serve as an airborne instructor during DACT training with non-ACM qualified pilots in other T/M/S aircraft. An ATI fulfills the safety, ORM and leadership requirements per the T&R Program Manual, OPNAVINST 3710.7 and unit Standard Operating Procedures (SOPs). Blue forces are listed below as 'External Support Required', but keep in mind that it is the adversary aircraft (F-5) that is the actual support asset for the Operating Forces' training.

General. Prospective ATIs ((P)ATIs), nominated by the Stan Board and approved by the Commanding Officer, shall complete the following POI to prepare them for designation as an ATI. Each of these sorties shall be evaluated by a WTI(A). Meeting the performance standards and receiving a positive endorsement from the sortie evaluator allows the (P)ATI to move on to the next event. Successful completion of all of the events means that the minimum requirement has been completed and the individual may be designated as an ATI by the Commanding Officer.

Prerequisites. The (P)ATI must be at least a designated Mission Commander.

Academic/Ground Training. ACAD-5031 shall be complete prior to being scheduled for ATI-5301. ACAD-5032 through 5034 shall be complete prior to being scheduled for ATI-5303 shall be completed prior to being scheduled for ATI-5304.

TRAINING CODE	EVENT	Source
ACAD-5031	Give Off / Def / HABFM Chalk Talk	PTO
ACAD-5032	Review AFTTP 3-1 Threat Guide "Fighter Aircraft and Armament	S-2
ACAD-5033	Review NASIC Playbooks Russia / China	S-2
ACAD-5034	Review TOPGUN Manual "Adversary"	S-2
ACAD-5035	Give "Adversary Planning and Employment" Lecture	PTO

ATI Overview

ADVERSARY TACTICS INSTRUCTOR (ATI)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
ATI-5301	0.8	*	B,R	D	A	2	1 v 1 Dissimilar Eval
ATI-5301	0.8	*	B,R	D	A	2	1 v 1 Similar Eval
ATI-5303	0.8	*	B,R	D	A	2	2 v X Support Mission Eval
ATI-5304	1.8	*	B,R	D	A	3/4	X v X Support Mission Eval

ATI-5301   0.8   *   B,R   D   A   2 F-5N/F

Goal. Evaluate the (P)ATI's ability to brief, conduct and debrief a 1v1 (F5 v Dissimilar) BFM flight. The PUI should tailor the event to a non-ACMQ dissimiliar wingman (F-18, AV-8B) and demonstrate expertise in PADS set up, deconfliction, training rules adherence, recall and debrief analysis.

Requirement. Conduct 2 perch sets (9k with (P)ATI attacking and 6k with (P)ATI defending, and one neutral BFM set (butterfly set with cooperative start).

Performance Standard. Demonstrate instructor level expertise in the brief, execution, and debrief of dissimiliar BFM concepts, with brief tailored to a non-ACMQ dissimiliar (F-18, AV8B) wingman PUI (WTI(A) evaluator acting as PUI). Effectively manage wingman, time, and airspace as flight lead during execution of the flight. Conduct debrief with accurate recall, reconstruction, and identification of learning points for all sets, tailoring debrief to a new non-ACMQ dissimiliar wingman. Debrief should include full white board reconstruction with

subsequent validation at the TACTS Range. Emphasize identification of BFM errors and demonstration of corrective actions.

Prerequisites. ACAD-5031 through 5035.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

ATI-5302   0.8   *   B,R   D   A   2 F-5N/F

Goal. Evaluate the (P)ATI's ability to brief, conduct and debrief a 1v1 similar (F5 v F5) BFM flight. The PUI should tailor the event to a new wingman and demonstrate expertise in PADS set up, deconfliction, training rules adherence, recall and debrief analysis.

Requirement. Conduct 2 perch sets (9k with (P)ATI defending and a 6k with (P)ATI attacking), and one neutral BFM set with non-cooperative start.

Performance Standard. Demonstrate instructor level expertise in the brief, execution, and debrief of F-5 similar BFM concepts, with brief tailored to a new F-5 PUI (WTI(A) evaluator acting as PUI). Effectively manage wingman, time, and airspace as flight lead during execution of the flight. Conduct debrief with accurate recall, reconstruction, and identification of learning points for all sets, tailoring debrief to a new F-5 PUI (WTI(A) evaluator acting as PUI). Debrief should include full white board reconstruction with subsequent validation at the TACTS Range. Emphasize identification of BFM errors and demonstration of corrective actions.

Prerequisites. ATI-5301.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS desired.

References. VMFT-401 Sortie Syllabus Guide.

ATI-5303   0.8   *   B,R   D   A   2 F-5N/F

Goal. Evaluate the (P)ATI's ability to safely and effectively conduct and control a non-FRS dissimilar 2vX support mission as an adversary flight lead and instructor. The focus should be on the (P)ATI's ability to brief, lead, and debrief a new F-5 PUI (WTI(A) evaluator acting as PUI). The PUI should tailor the adversary presentations, formations, tactics and weapons employment to the blue tasking, ensuring deconfliction and training rules adherence. The (P)ATI should emphasize leadership and instruction to a new F-5 wingman (WTI(A) evaluator acting as PUI).

Requirement. Conduct coordination brief, execution, and TACTS debrief in conjunction with blue air support.

Performance Standard. Demonstrate instructor level expertise in the opinion of the evaluating instructor in an adversary mission including threat simulation, gameplan development, employment, and debrief while tailoring the brief to a new F-5 PUI (WTI(A) evaluator acting as PUI). Effectively manage wingman, time, and airspace as flight lead during execution of the flight. Conduct debrief with accurate recall and reconstruction of all sets. Debrief should include full reconstruction with subsequent validation at the TACTS Range.

Prerequisite. ACAD 5032-5034.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS required. GCI required. 2 dissimilar fighters.

References. VMFT-401 Sortie Syllabus Guide.

ATI-5304   0.8   *   B,R   D   A   3-4 F-5N/F

Goal. Evaluate the (P)ATI's ability to safely and effectively conduct and control a non-FRS dissimilar XvX support mission as an adversary flight lead and instructor. The focus should be on the (P)ATI's ability to brief, lead, and debrief at an instructor level of expertise. The PUI should tailor the adversary presentations, formations, tactics and weapons employment to the blue tasking, ensuring deconfliction and training rules adherence.

Requirement. Conduct coordination brief, execution, and TACTS debrief in conjunction with blue air support.

Performance Standard. Demonstrate instructor level expertise in the opinion of the evaluating instructor as an adversary instructor. Effectively manage wingman, time, and airspace during execution. Conduct debrief with accurate recall and reconstruction. Debrief shall include full reconstruction with subsequent validation at the TACTS Range.

Prerequisite. ATI-5301-5303, ACAD-5035.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL310.

External Support. TACTS required. GCI required. Dissimilar fighters.

References. VMFT-401 Sortie Syllabus Guide.

2.15.4 Advanced Adversary Instructor Designations. Prospective Advanced Adversary Instructors are nominated by the Pilot Training officer via the Operations Officer and approved by the Commanding Officer. Perspective students shall complete a POI tailored by the squadron PTO in order to prepare the student for course attendance. Each of the sorties / academic work-up events shall be evaluated by an MATI graduate. The NFWS-5401 shall serve as the tracking code within M-SHARP upon course completion.

Prerequisites. Advanced Adversary Instructor designation require the most capabale instructors as these designations allow for external instruction periods and provide the professional face of the Marine adversary program. Minimum qualification should be a designated Division Leader with an astute understanding of professionalism as an instructor.

Previously attained Blue Qualifications. NFWS SFTI and MAWTS-1 Marine Division Tactics Course (MDTC) qualifications attained by pilots prior to joining VMFT-401 fulfill the requirements for the MDTC(A) and NFWS Adversary qualification, but pilots do not automatically recieve the ATI qualification. Previous WTI qualifications do not satisfy MATI requirements but may waive generic academics on a case by case basis.

Academic/Ground Training. The squadron PTO shall tailor an academic POI suited to the perspective Advanced Adversary Instructor and ensure all applicable course prerequsites are met.

2.15.4.1 Weapons and Tactics Instructor (Adversary)(WTI(A)). The WTI(A) course runs in conjunction with the Weapons and Tactics Instructor (WTI) course and grants the WTI(A) designation to students that complete the course. The prospective WTI(A)s must be either MATI, NFWS(A), or their blue equivelent with the ATI designation. Prospective WTI(A)s must be recommended by the PTO, OPSO, and CO in order to attend the course. The WTI Planning guide should be referenced for additional prerequsites The MATI qualification satisfies the prerequisites and is best suited to serve in the squadron Pilot Training Officer billet.

2.15.4.2 Marine Division Tactis Instructor Course (Adversary). The MDTC(A) course runs in conjunction with the MAWTS-1 sponsored Marine Division Tactics Instructor course. Upon successful completion of the course the student is designated as Marine Adversary Tactics Instructor (MATI). Prospective MATIs must be at least a division lead prior to attending and have been nominated by the PTO, OPSO, and CO. The MDTC(A) satisfies the requirements of ATI and meets the prerequisites to serve as the Squadron Pilot Training Officer.

2.15.4.3 Navy Fighter Weapons School (NFWS) Adversary Course. The NFWS Adversary Course runs in conjunction with the NFWS Strike Fighter Tactics Instructor (SFTI) course and grants the USN Level 4 Adversary qualification to students that complete the course. VMFT-401 is allocated one seat per calendar year for the NFWS Adversary course. The NFWS Adversary qualification satisfies the prerequisites to serve in the squadron Pilot Training Officer billet.

2.16 REQUIREMENTS, CERTIFICATIONS, DESIGNATIONS, AND QUALIFICATIONS (RCQD) PHASE

General, VMFT-401 is the only USMC F-5 Adversary Squadron. Due to the unique nature of the unit, all transitional pilot training (FRS type) and all flight leadership designations are standardized within the squadron. There is no external standardization or formal certification for VMFT-401 flight leads undergoing the flight lead or instructor syllabi. Pilots joining VMFT-401 must have been previously certified as an ACTI / FAI (or equivalent). Blue forces are listed below as 'External Support Required', but keep in mind that it is the adversary aircraft (F-5) that is the actual support asset for the Operating Forces' training.

Tracking Codes. Tracking codes for documenting the types of support provided to the requesting units are found in the range from 6011-6044. The first two digits of these tracking codes are "60", as they are in the 6000-level series. The third digit applies to the complexity level of the tasking, and uses the Adversary Employment Levels, found in the Adversary Threat Replication Guide (ATRG). The third digit of the tracking code will be a 1 through 5, to indicate Level 1-5 tasking by the supported unit. The fourth digit will represent the simulated load out of the threat (adversary) aircraft as follows: 1=IR only; 2=SAR-1; 3=SAR-2; and 4=AR-1/2. So, in total, the following table indicates the tracking code that will be logged for every AA sortie:

VMFT-401 F-5 TRACKING CODES				
3rd digit: Threat Sim Level	4th digit: Simulated Weapons Load Out			
	IR only (1)	SAR-1 (2)	SAR-2 (3)	AR-1/2 (4)
Level 1	6011	6012	6013	6014
Level 2	6021	6022	6023	6024
Level 3	6031	6032	6033	6034
Level 4	6041	6042	6043	6044
Level 5	6051	6052	6053	6054

For example, if the adversaries are tasked with being a Level-3 Adversary with SAR-1 missiles, the adversaries will log the code 6032.

Additional tracking codes. The following tracking codes are also to be used for the following reasons:

VMFT-401 TRACKING CODES	
CODE	PURPOSE
6101	Backseat Landing. Logged by FAMI to track currency.
6102	Drag Chute Landing. Track proficiency.
6103	Insufficient Ordnance. Logged when required ordnance was unavailable for training or support, but all other requirements were met.
6104	Dissimilar aircraft not available. Usually this will be used for 1000 and 2000 level training, when similar aircraft are substituted for unavailable dissimilar fighters.
6154	Flight Lead tracking. Logged by flight lead of four-ship or greater.

Phase Overview

REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, AND DESIGNATIONS (RCQD) PHASE		
STAGE	PARAGRAPH	PAGE NUMBER
SLWU	2.17.1	2-41
DLWU	2.172	2-45
MCWU	2.17.3	2-48
PMCFQ	2.17.4	2-50
NATOPS	2.17.5	2-51
INST	2.17.6	2-52
ACPM	2.17.7	2-52

2.17 REQUIREMENTS, CERTIFICATIONS, DESIGNATIONS, AND QUALIFICATIONS (RCQD) STAGES

2.17.1 Section Lead Work-Up (SLWU) POI

Purpose. To designate two ship flight leads and RTOs capable of conducting safe and standardized ground and airborne adversary support missions. The SLWU syllabus is the first step in the unit flight leadership phase and a designated Section Lead (SL) pilot is the primary representative of VMFT-401 for supported ground and aviation units. A Section Lead shall be capable of conducting standardized ground and airborne procedures, threat tactics and adversary support operations to include acting as RTO for 2vX adversary support missions. A SLWU shall not be designated a SL until they have briefed, led and debriefed all expected two ship adversary support missions

VMFT-401 may be tasked with. This ensures consistent and professional adversary support. A SL pilot fulfills the safety, ORM and leadership requirements per T&R Program Manual, OPNAVINST 3710.7 and unit Standard Operating Procedures.

General. SLWU pilots are nominated by the Stan Board and approved by the Commanding Officer. The following minimum POI should be completed in order to prepare for designation as an Adversary Section Lead. Each work-up flight event shall be evaluated by a designated Division Leader or higher. The SL checkride shall be evaluated by an ATI. Meeting the performance standards and receiving a positive endorsement from the sortie evaluator allows the SLWU pilot to move on to the next event. Individuals may be designated as a Section Lead by the Commanding Officer after successful completion of all events.

Prerequisites. The SLWU pilot must be ACMQ, LATQ, HAQ and have a minimum of 50 hours in the F-5.

Academic/Ground Training. All requirements delineated in the matrix below shall be completed prior to commencing the flight syllabus.

SECTION LEADER WORK-UP ACADEMICS (SLWU ACAD)		
TRAINING CODE	EVENT	SOURCE
ACAD-6051	SOP / TACSOP review	PTO
ACAD-6052	TOPGUN Manual "Adversary" Section III Bandit Presentation Development	S-2
ACAD-6053	TOPGUN Manual "Adversary" Section V Red Air Execution	S-2
ACAD-6054	TOPGUN Manual "A/A Mission Planning"	S-2
ACAD-6055	TOPGUN Manual "FA-18 Air-to-Air Employment"	S-2
ACAD-6056	Review Adversary Threat Replication Guide (ATRG)	S-2
ACAD-6057	VMFT-401 Lecture, "Adversary Planning and Employment"	PTO / ATI

Required Flight Exposure Items. The following listed items shall be completed during the flight phase. The order by which they are completed is at the discretion of the WU pilot and evaluator. All items shall be completed prior to designation. A copy of this table will be placed in the training jacket of the prospective Section Leader.

FLIGHT EXPOSURE FOR SLWU		
Flight Exposure Items	DATE	INSTRUCTOR
Section Go		
10 Second Go		
4 Second Break		
Fan Break		
Section Approach (TACAN or PAR)		
Section Missed Approach		
Section Landing		
Simulated NORDO Approach (as lead)		
Dash 3 of a Sniper Go		
2v2 Visual Set (SEM)		
1+1v2 Tap the Cap (TTC) Scenario		

SLWU Overview

SECTION LEADER WORK-UP (SLWU)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
SLWU-6201	0.8	*	B,R	D	A	2	SLWU 1V1 SIMILAR BFM
SLWU-6202	0.8	*	B,R	D	A	2	SLWU 1+1V2 TTC / 2v2 SEM
SLWU-6203	0.8	*	B	D	A	2	SLWU 2VX ADVERSARY SPT
SLWU-6204	0.8	*	B,R	D	A	4	SLWU 4VX AS DASH-3
SLWU-6205	0.8	*	B	D	A	2	SLWU 2VX NON-FRS
SLWU-6206	0.8	*	B,R	D	A	2	SLWU 2VX HA
SLWU-6207	0.0	*	B,R	D	A	0	RTO 2VX
SLWU-6208	0.8	*	B,R	D	A	2	SLWU CHECK 2VX W

SLWU-6201   0.8   *   B,R   D   A   2 F-5N/F

Goal. SLWU 1v1 Similar BFM. Evaluate the SLWU pilot's ability to brief, lead, and debrief a 1v1 similar BFM flight.

Requirement. Complete three BFM sets; one 9k with SLWU offensive, one 6k with SLWU defensive, and one neutral BFM set. The neutral set should be a butterfly set to a cooperative merge.

Performance Standard. Effectively brief, lead and debrief F-5 similar BFM. Effectively manage wingman, time, and airspace as flight lead during execution of the event. Conduct debrief with accurate recall and reconstruction of all sets. Debrief should include full white board reconstruction. Examples of BFM errors and decisions resulting in a kill or another disadvantage should be identified and debriefed.

Prerequisite. ACAD-6051 - 6057.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL300.

External Support. TACTS desired.

SLWU-6202   0.8   *   B,R   D   A   2 F-5N/F

Goal. SLWU Tap the Cap (TTC) or Section Engaged Maneuvering (SEM). Evaluate the SLWU pilot's ability to safely and effectively conduct and control a dissimilar 1+1v2 TTC or 2v2 SEM support mission as an adversary flight lead. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment per tasking. Further emphasis should be on deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment and merge considerations.

Requirement. Complete at least two setups (SEM or TTC). Threat simulations should be consistent with tasking and mindset.

Performance Standard. Effectively conduct an adversary engaged maneuvering mission. Effectively manage wingman, time, airspace and threat presentations as flight lead. Debrief with accurate recall and reconstruction of all sets. Debrief should include full white board reconstruction with subsequent validation at the TACTS Range if available. Examples of employment and decision errors resulting in a kill or another disadvantage should be identified and debriefed.

Prerequisite. SLWU-6201.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL300.

External Support. TACTS desired. GCI desired. Dissimilar fighters.

SLWU-6203   0.8   *   B   D   A   2 F-5N/F

Goal. SLWU 2vX. Evaluate the SLWU pilot's ability to safely and effectively conduct and control a dissimilar 2vX(2/2+) support mission as an adversary flight lead. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment per tasking. Further emphasis should be on deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment and merge considerations.

Requirement. Conduct at least two beyond visual range (BVR) setups utilizing dedicated GCI. Threat presentations should be tailored to the specific blue tasking and threat simulation.

Performance Standard. Effectively brief an adversary 2vX(2/2+) mission. Effectively manage wingman, time, airspace and threat presentations as flight lead during execution of the mission. Debrief with accurate recall and reconstruction of all sets. Debrief shall include full white board reconstruction with subsequent validation at the TACTS Range. Examples of employment and decision errors resulting in a kill or another disadvantage should be identified and debriefed. Blue and red mission level errors should also be debriefed.

Prerequisite. SLWU-6201.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required. Dissimilar fighters.

SLWU-6204   0.8   *   B,R   D   A   4 F-5N/F

Goal. SLWU XvX as an element Section Lead. Evaluate the SLWU pilot's ability to employ as an element lead during a dissimilar XvX support mission. The focus should be on the SLWU pilot's ability to adhere to the brief and execute tasking as an element lead of a division adversary mission. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment for the tasking. Further emphasis should be on deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment and merge considerations.

Requirement. Conduct at least two BVR setups utilizing TACTS and dedicated GCI as a element lead (dash 3) within a division support mission. Presentations should be tailored to specific blue tasking with emphasis on leadership and instruction in the 2vX adversary support mission.

Performance Standard. Effectively lead and debrief as an element lead in a XvX adversary support mission. Effectively manage wingman, time, airspace and presentation as element lead during execution of the mission. Debrief with accurate recall and reconstruction of all sets.

 Prerequisite. SLWU-6203.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS desired. GCI required. Dissimilar fighters.

SLWU-6205   0.8   *   B   D   A   2 F-5N/F

Goal. SLWU 2vX with non-FRS tasking. Evaluate the SLWU pilot's ability to safely and effectively conduct and control a non-FRS dissimilar 2vX(2/2+) support mission as a Level 3+ adversary. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment for the tasking. Further emphasis should be on deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment and merge considerations.

Requirement. Conduct at least two beyond visual range (BVR) setups utilizing dedicated GCI. Threat presentations should be tailored to the specific blue tasking and threat simulation.

Performance Standard. Effectively brief an adversary 2vX(2/2+) mission. Effectively manage wingman, time, airspace and threat presentations as flight lead during execution of the mission. Debrief with accurate recall and reconstruction of all sets. Debrief shall include full white board reconstruction with subsequent validation at the TACTS. Examples of employment and decision errors resulting in a kill or another disadvantage should be identified and debriefed. Blue and red mission level errors should also be debriefed.

Prerequisite. SLWU-6203.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required. Dissimilar fighters.

SLWU-6206   0.8   *   B,R   D   A   2 F-5N/F

Goal. SLWU 2vX HA. Evaluate the SLWU pilot's ability to safely and effectively conduct and control a dissimilar 2vX(1/2/2+) Helo Attack (HA) mission. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment for the tasking. Further emphasis should be on low alt considerations, deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment and merge considerations.

Requirement. Safely and effectively complete any 2vX HA mission as the flight lead.

Performance Standard. Effectively conduct an adversary 2vX(1/2/2+) Helo Attack (HA) mission. Effectively manage wingman, time, airspace and threat presentations as flight lead during execution of the mission. Debrief

should include appropriate adversary comments during the in-flight debrief. Examples of employment and decision errors resulting in ineffective adversary support to the RW assets should be identified and debriefed.

Prerequisite. SLWU-6201.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-10K.

External Support. 1+ RW.

SLWU-6207	0.0	*	B,R		D	G	RANGE TRAINING OFFICER

Goal. SLWU 2vX RTO. Evaluate the SLWU pilot's ability to safely and effectively conduct and control a dissimilar 2vX adversary mission as the Range Training Officer (RTO). Emphasis should be placed on adhering to OPNAV 3710.7 Training rules regarding RTO / Senior Air Director (SAD) safety responsibilities with adversary simulation enhancement as a secondary objective.

Requirement. Safely and effectively complete any 2vX mission as the RTO.

Performance Standard. Effectively conduct an adversary 2vX mission as the RTO. Manage deconfliction, time, airspace and threat presentations as tasked by the red flight lead. Debrief should include assisting the red flight lead with applicable recall, notes, and TACTS replay.

Prerequisite. ACAD 6051-6057.

External Support. TACTS required. GCI required.

SLWU-6208	0.8	*	B,R		D	A	2 F-5N/F

Goal. SL Check Ride 2vX with non-FRS tasking. Final SLWU event and SLWU check flight prior to designation. Evaluate the SLWU pilot's ability to safely and effectively conduct and control a non-FRS dissimilar 2vX(2/2+) support mission. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment for the tasking. Further emphasis should be on deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment and merge considerations.

Requirement. Conduct at least two beyond visual range (BVR) setups utilizing dedicated GCI. Threat presentations should be tailored to the specific blue tasking and threat simulation.

Performance Standard. Effectively brief an adversary 2vX(2/2+) mission. Effectively manage wingman, time, airspace and threat presentations as flight lead during execution of the mission. Debrief with accurate recall and reconstruction of all sets. Debrief shall include full white board reconstruction with subsequent validation at the TACTS Range. Examples of employment and decision errors resulting in a kill or another disadvantage should be identified and debriefed. Blue and red mission level errors should also be debriefed.

Prerequisite. SLWU-6201 through 6207.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required. Dissimilar fighters.

2.17.2 Division Lead Work-Up (DLWU) POI

Purpose. To designate four ship flight leads capable of conducting safe and standardized ground and airborne adversary support missions. The DLWU syllabus is the second step in the unit flight leadership phase and a designated Division Lead (DL) pilot is the primary representative of VFMT-401 for force on force level aviation training. A DL pilot shall be capable of conducting standardized ground and airborne procedures, threat tactics and adversary support operations to include acting as RTO for 4vX adversary support missions. A DLWU shall not be designated a DL pilot until they have briefed, led and debriefed a minimum of four division level adversary missions. This ensures consistent and professional adversary support. A DL pilot fulfills the safety, ORM and leadership requirements per T&R Program Manual, OPNAVINST 3710.7 and unit Standard Operating Procedures.

General. DLWU pilots are nominated by the Stan Board and approved by the Commanding Officer. The following minimum POI shall be completed in order to prepare for designation as an Adversary Division Lead. Each work-up flight event shall be evaluated by a designated MC or higher. The DL checkride shall be evaluated by an ATI. Meeting the performance standards and receiving a positive endorsement from the sortie evaluator allows the DLWU pilot to move on to the next event. Individuals may be designated as a Division Lead by the Commanding Officer after successful completion of all events.

Prerequisites. The DLWU pilot must be at least a designated Section Leader and must have a minimum of 75 hours in the F-5.

Academic/Ground Training. All requirements delineated in the matrix below shall be completed prior to commencing the flight syllabus.

DLWU ACADEMICS (ACAD)		
TRAINING CODE	EVENT	SOURCE
ACAD-6061	NASIC Playbooks Russia / China	PTO
ACAD-6062	Review TOPGUN Manual "Adversary" Sect III	S-2
ACAD-6063	Review TOPGUN Manual "Adveersary" Sect V	S-2
ACAD-6064	Review Adversary Threat Replication Guide (ATRG)	S-2

Required Flight Exposure Items. The following listed items should be completed during the flight phase. The order by which they are completed is at the discretion of the WU pilot and evaluator. All items shall be completed prior to designation.

DLWU EXPOSURE ITEMS		
Flight Exposure Items	DATE	INSTRUCTOR
Sniper Go		
10 Second Go		
4 second Break as a Division		
Straight-in recovery with Flight-Lead Breakup of Flight		

DLWU Overview

DIVISION LEADER WORK-UP (DLWU)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
DLWU-6301	0.8	*	B	D	A	4	DLWU 4VX FRS
DLWU-6302	0.8	*	B,R	D	A	4	DLWU 4VX NON-FRS
DLWU-6303	0.8	*	B,R	D	A	4	DLWU LFE
DLWU-6304	0.8	*	B,R	D	G		RTO 4VX
DLWU-6305	0.8	*	B,R	D	A	4	DLWU 4VX CHECK NON-FRS LVL 3+

DLWU-6301   0.8   *   B   D   A   4 F-5N/F

Goal. Evaluate the DLWU pilot's ability to safely and effectively conduct and control an FRS dissimilar 4vX(2/2+) support mission. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment for the tasking. Further emphasis should be on deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment and merge considerations.

Requirement. Conduct at least two beyond visual range (BVR) setups utilizing dedicated GCI. Execute at least two pre-planned 3-1 threat presentations tailored to the specified blue tasking and threat simulation.

Performance Standard. Effectively brief an FRS adversary 4vX(2/2+) mission. Effectively manage wingmen, time, airspace and threat presentations as flight lead during execution of the mission. Debrief with accurate recall and reconstruction of all sets. Debrief should include full white board reconstruction with subsequent validation at the TACTS Range. Examples of employment and decision errors resulting in a kill or another disadvantage should be identified and debriefed. Blue and red mission level errors should also be debriefed.

Prerequisites. ACAD 6061-6064.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required. Dissimilar fighters.

DLWU-6302   0.8   *   B,R   D   A   4 F-5N/F

Goal. Evaluate the DLWU pilot's ability to safely and effectively conduct and control a non-FRS dissimilar 4vX(2/2+) support mission as a Level 3+ adversary. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment for the tasking. Further emphasis should be on deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment and merge considerations.

Requirement. Conduct at least two beyond visual range (BVR) setups utilizing dedicated GCI. Execute at least two pre-planned 3-1 threat presentations tailored to the specified blue tasking and threat simulation.

Performance Standard. Effectively brief an adversary 4vX(2/2+) mission as a Level 3+ adversary. Effectively manage wingmen, time, airspace and threat presentations as flight lead during execution of the mission. Debrief with accurate recall and reconstruction of all sets. Debrief shall include full white board reconstruction with subsequent validation at the TACTS Range. Examples of employment and decision errors resulting in a kill or another disadvantage should be identified and debriefed. Blue and red mission level errors should also be debriefed.

Prerequisite. DLWU-6301.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required. Dissimilar fighters.

DLWU-6303   0.8   *   B,R   D   A   4 F-5N/F

Goal. Evaluate the DLWU pilot's ability to safely and effectively conduct and control an element within a LFE. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment for the tasking. Further emphasis should be on deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment, merge considerations and effective integration into an LFE package.

Requirement. Conduct at least one beyond visual range (BVR) setup in an LFE utilizing dedicated GCI. Execute at least one pre-planned 3-1 threat presentation followed by reactions according to tasking and tailored to the specified threat simulation.

Performance Standard. Effectively brief an adversary element of at least four aircraft in an LFE. Effectively manage wingmen, time, airspace and threat presentations as an element lead during execution of the mission. Debrief with accurate recall and reconstruction of all sets. Debrief should include validation at the TACTS facility. Examples of employment and decision errors resulting in a kill or another disadvantage should be identified and debriefed. Blue and red mission level errors should also be debriefed.

Prerequisite. DLWU-6301.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required. Dissimilar fighters.

DLWU-6304   0.0   *   B,R   D   G   RANGE TRAINING OFFICER

Goal. DLWU 4vX RTO. Evaluate the DLWU pilot's ability to safely and effectively conduct and control a dissimilar 4vX adversary mission as the Range Training Officer (RTO). Emphasis should be placed on adhering to OPNAV 3710.7 Training rules regarding RTO / Senior Air Director (SAD) safety responsibilities with adversary simulation enhancement as a secondary objective.

Requirement. Safely and effectively complete any 4vX mission as the RTO.

Performance Standard. Effectively conduct an adversary 4vX mission as the RTO. Manage deconfliction, time, airspace, and threat presentations as tasked by the red flight lead. Debrief should include assisting the red flight lead with applicable recall, notes, and TACTS replay.

Prerequisite. ACAD-6061-6064.

External Support. TACTS required. GCI required.

DLWU-6305   0.8   *   B,R   D   A   4 F-5N/F

Goal. DLWU check flight prior to designation. Evaluate the DLWU pilot's ability to safely and effectively conduct and control a non-FRS dissimilar 4vX(2/2+) support mission as a Level 3+ adversary. Emphasis should be placed on adversary presentations, formations, tactics and weapons employment per tasking. Further emphasis should be on deconfliction, training rules adherence, F-5 RADAR mechanics, weapons employment and merge considerations.

Requirement. Conduct at least two beyond visual range (BVR) setups utilizing dedicated GCI. Execute at least two pre-planned 3-1 threat presentations tailored to the specified blue tasking and threat simulation.

Performance Standard. Effectively brief an adversary 4vX(2/2+) mission as a Level 3+ adversary. Effectively manage wingmen, time, airspace and threat presentations as flight lead during execution of the mission. Debrief with accurate recall and reconstruction of all sets. Debrief shall include full white board reconstruction with subsequent validation at the TACTS facility. Examples of employment and decision errors resulting in a kill or another disadvantage should be identified and debriefed. Blue and red mission level errors should also be debriefed.

Prerequisite. DLWU-6301-6304.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required.

2.17.3 Mission Commander Work-Up (MCWU) POI

Purpose. To designate multi-element flight leads capable of conducting safe and standardized adversary large force employment (LFE) support missions to include IADS commander administration. The MCWU syllabus is the final step in the unit flight leadership phase. An MCWU pilot shall not be designated a MC pilot until he has briefed, led and debriefed a minimum of three LFE missions. This ensures consistent and professional adversary support. A MC pilot fulfills the safety, ORM and leadership requirements per T&R Program Manual, OPNAVINST 3710.7 and unit Standard Operating Procedures.

General. MCWU pilots are nominated by the Stan Board and approved by the Commanding Officer. The following minimum POI shall be completed in order to prepare for designation as an Adversary Mission Commander. Each flight event shall be evaluated by a designated ATI. Meeting the performance standards and receiving a positive endorsement from the sortie evaluator allows the MCWU pilot to move on to the next event. Individuals may be designated as a Mission Commander by the Commanding Officer after successful completion of all events.

Prerequisites. The MCWU pilot must be at least a Division Lead and must have a minimum of 100 hours in the F-5. A MCWU pilot must have also participated in at least one WTI / MDTC course and two major WTI / MDTC LFEs (or equivalent).

Academic/Ground Training. All requirements delineated in the matrix below shall be completed prior to commencing the flight syllabus.

MISSION COMMANDER WORK-UP ACADEMICS (ACAD)		
TRAINING CODE	EVENT	SOURCE
ACAD-6071	TOPGUN Manual "Large Force Employment"	PTO
ACAD-6072	AFTTP 3-1 Threat Guide Air and Air Defense Employment	S-2

Required Flight Exposure Items. The following listed items should be completed during the flight phase. The order by which they are completed is at the discretion of the WU pilot and evaluator. All items should be completed prior to designation.

MISSION COMMANDER WORK-UP FLIGHT EXPOSURE ITEMS		
FLIGHT EXPOSURE ITEMS	DATE	INSTRUCTOR
Mixed Red Air Package (non-F-5)		
All F-5 Red Air Package (minimum 6xF-5)		

MCWU Overview

MISSION LEADER WORK-UP (MLWU)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
MCWU-6401	0.8	*	B	D	A	6/8	MCWU ANY MULTI-ELEMENT ADVERSARY PKG
MCWU-6402	0.8	*	B,R	D	A	6/8	MCWU MULTI-ELEMENT ADVERSARY PKG W MIXED RED AIR
MCWU-6403	0.0	*	B,R	D	G		RTO XVX LFE
MCWU-6404	0.8	*	B,R	D	A	8	MCWU CHECK ANY MULTI-ELEMENT ADVERSARY PKG

MCWU-6401   0.8   *   B   D   A   6-8 F-5N/F

Goal. Evaluate the MCWU pilot's ability to brief, lead, and debrief any multi-element adversary package in a LFE. PUI should emphasize threat presentations, weapons employment, element deconfliction and training rules.

Requirement. Coordinate and brief at least one BVR presentation in an LFE. Threat presentations and subsequent element tasking should be in accordance with the 3-1 and specified blue training objectives. MCWU should act as overall Red Mission Commander and as the division lead of the F-5 players.

Performance Standard. Effectively brief, lead and debrief any LFE adversary mission. Effectively manage presentation, tasking, timing and airspace as overall Mission Commander during execution of the LFE. Conduct debrief with accurate recall and reconstruction. Debrief should include any applicable white board reconstruction and should be completed at the TACTS Range. Examples of mission level errors and tactical decisions which result in a disadvantage by either blue or red forces should be identified and debriefed.

Prerequisites. ACAD-6071, 6072.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required. Dissimilar fighters.

MCWU-6402   0.8   *   B,R   D   A   6-8 F-5N/F

Goal. Evaluate the MCWU pilot's ability to brief, lead, and debrief a multi-element adversary package as part of a WTI / MDTC Course with mixed red air. PUI should emphasize threat presentations, weapons employment, element deconfliction and training rules.

Requirement. Coordinate and brief at least one BVR presentation in an LFE scenario with a mixed red air package. Threat presentations and subsequent element tasking should be in accordance with the 3-1 and specified training objectives. MCWU should act as overall Red Mission Commander and as the division lead of the F-5 players. WTI / MDTC event desired.

Performance Standard. Effectively brief, lead and debrief an LFE adversary mission. Effectively manage presentation, tasking, timing and airspace as overall Mission Commander during execution of the event. Conduct debrief with accurate recall and reconstruction. Debrief should include any applicable white board reconstruction and should be completed at the TACTS facility. Examples of mission level errors and tactical decisions which result in a disadvantage by blue or red forces should be identified and debriefed.

Prerequisite. MCWU-6401.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required.

MCWU-6403   0.0   *   B,R   D   G   RANGE TRAINING OFFICER

Goal. MCWU XvX RTO. Evaluate the MCWU pilot's ability to safely and effectively conduct and control a dissimilar XvX adversary LFE support mission as the Range Training Officer (RTO). Emphasis should be placed on adhering to OPNAV 3710.7 Training rules regarding RTO / Senior Air Director (SAD) safety responsibilities with adversary simulation enhancement and IADS commander administration as secondary objectives.

Requirement. Safely and effectively complete any XvX LFE mission as the RTO.

Performance Standard. Effectively conduct an adversary XvX LFE mission as the RTO. Manage deconfliction, time, airspace, and threat presentations as tasked by the red mission commander. Debrief should include assisting the red mission commander with applicable recall, notes, and TACTS replay.

Prerequisite. ACAD-6071-6072.

External Support. TACTS required. GCI required.

MCWU-6404   0.8   *   B,R   D   A   8 F-5N/F

Goal. Final MCWU event and MCWU check flight prior to designation. Evaluate the MCWU pilot's ability to brief, lead, and debrief any multi-element adversary LFE package. PUI should emphasize threat presentations, weapons employment, element deconfliction and training rules.

Requirement. Coordinate and brief at least one BVR adversary presentation in any LFE. Threat presentations and subsequent element tasking should be in accordance with the 3-1 and specified blue training objectives. MCWU should act as overall Red Mission Commander and as the division lead of the F-5 players.

Performance Standard. Effectively brief, lead and debrief any LFE adversary mission. Effectively manage presentation, tasking, timing and airspace as overall Mission Commander during execution of the LFE. Conduct debrief with accurate recall and reconstruction. Debrief should include any applicable white board reconstruction and should be completed at the TACTS facility. Examples of mission level errors and tactical decisions which result in a disadvantage by either blue or red forces should be identified and debriefed.

Prerequisite. MCWU-6401-6403.

Ordnance. One (1) CATM-9 and ten (10) flares per aircraft.

Range Requirement. RSTD SFC-FL500.

External Support. TACTS required. GCI required. Dissimilar fighters.

2.17.4 Post-Maintenance Check Flight Qualification (PMCFQ) POI

Purpose. To qualify pilots capable of performing PMCF flights in the F-5. PMCFQ pilots shall be capable of instructing follow-on (P)PMCFQ pilots and fulfilling the safety, ORM and leadership requirements per T&R Program Manual, OPNAVINST 3710.7 and unit Standard Operating Procedures.

General. Prospective PMCFQ pilots ((P)PMCFQ) are nominated by the Stan Board and approved by the Commanding Officer. The following minimum POI shall be completed in order to prepare for qualification as a PMCFQ pilot. The first flight event shall be evaluated by a qualified PMCF pilot from the aft cockpit. Meeting the performance standards and receiving a positive endorsement from the sortie evaluator allows the (P)PMCFQ to move on to the next event. Individuals may be designated as a PMCFQ by the Commanding Officer after successful completion of all events.

Prerequisites. The (P)PMCFQ must be at least a designated Division Leader and should have one year with 250 hours of F-5 flying experience.

Academic/Ground Training. All requirements delineated in the matrix below shall be completed prior to commencing the flight syllabus.

POST-MAINTENANCE CHECK FLIGHT ACADEMICS (ACAD)		
TRAINING CODE	EVENT	SOURCE
ACAD-6081	VMFT-401 lecture, "PMCF Techniques"	PMCFP

PMCF Overview

MISSION LEADER WORK-UP (MLWU)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
PMCF-6501	1.0	*	B,R	D	A	1	PMCFQ DUAL A-CARD
PMCF-6502	1.0	*	B,R	D	A	1	PMCFQ SOLO A-CARD, DESIGNATION FLIGHT
PMCF-6503	1.0	90	B,R,M	D	A	1	PMCF PROFICIENCY

PMCF-6501   1.0   *   B,R   D   A   1 F-5F

Goal. Evaluate the (P)PMCFQ pilot's ability to effectively and accurately complete a PMCF profile A card deck. (P)PMCFQ flies the FCF profile from the front seat with a PMCF Qualified pilot instructing from the aft cockpit.

Requirement. Complete a PMCF A card in an up status F model aircraft with the (P)PMCFQ in the front cockpit and an qualified PMCF pilot in the rear cockpit. Complete PMCF A card procedures including ground checks, in-flight checks and data recording. Drag chute landing should be completed upon final landing, winds permitting.

Performance Standard. Successfully complete a dual PMCF A card.

Prerequisite. ACAD-6081.

Range Requirement. RSTD SFC-FL500.

References. NATOPS Manual.

PMCF-6502   1.0   *   B,R   D   A   1 F-5N/F

Goal. Allow the (P)PMCFQ to practice the PMCF A card in an up status aircraft. Practice PMCF checklists. Final PMCFWU flight prior to designation.

Requirement. Complete a solo PMCF A card in an up status F-5 aircraft. Complete PMCF ground and in-flight procedures including ground checks, in-flight checks and data recording.

Performance Standard. Successfully complete a solo PMCF A card.

Prerequisite. PMCF-6501.

Range Requirement. RSTD SFC-FL500.

References. NATOPS Manual.

PMCF-6503   1.0   90   B,R,M   D   A   1 F-5N/F

Goal. Conduct a PMCF.

Requirement. Complete a PMCF in accordance with maintenance requirements.

Performance Standard. Successfully complete a PMCF including any/all ground and in-flight work required.

Prerequisite. PMCF-6502.

Range Requirement. RSTD SFC-FL500.

References. NATOPS Manual and applicable maintenance publications.

2.17.5 NATOPS Qualification POI

Purpose. To designate pilots as NATOPS-qualified in the F-5F/N series aircraft IAW OPNAVINST 3710.7.

General. Prospective NATOPS qualifications, either initial quals or refresher quals, must complete the following syllabus.

Prerequisites. Reference the F-5F/N NATOPS for further guidance, but at a minimum, the PUI must have 10 flight hours in the preceding 90 days before completing the academic and flight training listed below.

Academic/Ground Training. All requirements delineated in the matrix below shall be completed prior to commencing the flight syllabus.

NATOPS ACADEMICS (ACAD)	
Training Code	Event
NTPS-6701	Open Book NATOPS test
NTPS-6702	Closed Book NATOPS test
	Oral NATOPS test (completed in conjunction with NTPS-6703 Flight Brief)

NATOPS Overview

NATOPS							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
NTPS-6703	1.0	365	B,R,M	D	A	1	NATOPS Evaluation
NTPS-6704	1.0	365	B,R,M	D	A	1	CRM Evaluation

NTPS-6703   1.0   365   B,R,M   D   A   1 F-5F or 2 F-5N

Goal. Evaluate the PUI's ability to safely operate the F-5 series of aircraft as a pilot. Oral NATOPS test completed in conjunction with flight brief.

Requirement. Complete this sortie safely in the opinion of the NATOPS instructor pilot. Sortie will be completed in accordance with OPNAV, and the sortie content will be as laid out in the VMFT-401 Briefing Guide.

Performance Standard. All procedures in accordance with NATOPS, SOPs and local Course Rules.

Prerequisites: NTPS 6701, 6702.

Range Requirement. RSTD SFC-FL300.

References. NATOPS Manual.

NTPS-6704   1.0   365   B,R,M   D   A   1 F-5F or 2 F-5N

Goal. Evaluate the PUI's ability to effectively utilize CRM principles.

Requirement. Complete this sortie safely in the opinion of the NATOPS instructor pilot. CRM evaluation should be completed in conjunction with the NATOPS evaluation to the maximum extent possible.

Performance Standard. Effective utilization of CRM in all aspects of flight, including simulated emergencies.

Prerequisites: NTPS 6701, 6702.

References. NATOPS Manual.

2.17.6 Instrument Rating Syllabus

Purpose. To designate pilots as Instrument-rated in the F-5F/N series aircraft IAW OPNAVINST 3710.7.

General. PUIs requiring annual renewal of Instrument rating shall complete the following syllabus.

Prerequisites. Instrument rating requires that instrument prerequisites are met IAW OPNAVINST 3710.7.

Academic/Ground Training. All requirements delineated in the matrix below shall be completed prior to commencing the flight syllabus.

INSTRUMENT ACADEMICS (ACAD)	
Training Code	Event
INST-6801	Instrument Ground School
INST-6802	Instrument Written Exam

INST Overview

INSTRUMENT (INST)							
EVENT	TIME	REFLY	POI	COND	DEVICE	#	T&R DESCRIPTION
NTPS-6703	1.0	365	B,R,M	D	A	1	NATOPS Evaluation
NTPS-6704	1.0	365	B,R,M	D	A	1	CRM Evaluation

INST-6803   1.0   365   B,R,M   D   A   1 F-5F or 2 F-5E/N

Goal. Evaluate the PUI's ability to safely operate the F-5 series of aircraft as a pilot under Instrument Flight Rules.

Requirement. Complete this sortie safely in the opinion of the instrument-checker instructor pilot. Sortie will be completed in accordance with OPNAVINST 3710.7, and the sortie content will be as laid out in the VMFT-401 Briefing Guide.

Performance Standard. All procedures in accordance with NATOPS, SOPs and local Course Rules.

Prerequisites: INST-6801, 6802

External Support. An airfield with suitable precision and non-precision approaches available for practice approaches.

References. OPNAVINST 3710.7.

.2.18 AVIATION CAREER PROGRESSION MODEL (ACPM). All tactical T/M/S T&R manuals have ACPM training requirements embedded within the progressive training phases, including the flight leadership POI. If not already completed prior to assignment to VMFT-401, pilots assigned to VMFT-401 shall complete ACPM training requirements as outlined per their original T/M/S MOS T&R manual. Refer to NAVMC 3500.14, Aviation T&R Program Manual, as a primary reference for ACPM training requirements.

2.19 T&R SYLLABUS MATRIX

SKILL	PREFIX	T&R DESCRIPTION	EVENT NUMBER	ATTAIN B	ATTAIN R	MAINTAIN	ACAD #	ACAD TIME	FLIGHT #	FLIGHT TIME	COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING	EOM	EVENT CONV
F-5 PILOT T&R SYLLABUS MATRIX																				
CORE INTRODUCTION (1000 PHASE)																				
ACADEMICS (ACAD)																				
ACAD	ACAD	F-5 Systems	1001	X	X			1.0				G		*					1001
	ACAD	F-5 Ground School	1002	X	X			4.0				G		*					1002
	ACAD	Parachute Brief/Seat Brief/Cockpit FAM	1003	X	X			1.0				G		*					1003
	ACAD	Departure / OCF lecture	1004	X	X			1.0				G		*					1004
	ACAD	SOP Review / Test	1005	X	X			1.0				G		*					1005
	ACAD	RADAR lecture and hardware demo	1006	X				1.0				G		*					1006
	ACAD	TOPGUN Manual "Comm Brevity"	1010	X				1.0				G		*					1010
	ACAD	TOPGUN Manual "Command and Control"	1011	X				1.0				G		*					1011
	ACAD	TOPGUN Manual "1v1 Air Combat"	1020	X				1.0				G		*					1020
	ACAD	TACSOP Review	1030	X	X			1.0				G		*					1030
	ACAD	Adversary Threat Replication Guide (ATRG)	1031	X	X			1.0				G		*					1031
	ACAD	TOPGUN Manual "Adversary"	1032	X	X			1.0				G		*					1032
ACAD TOTAL							12	15.0	0	0.0									
FAMILIARIZATION (FAM)																				
FAM	FAM	Taxi FAM	1101	X	X					0.0	D	A	1F	*	1001,1002,1003,1004,1005,6701,6702	TAXI ONLY			1101
	FAM	First FAM	1102	X	X					1.0	D	A	1F	*	1101				1102
	FAM	Safe for Solo check	1103	X	X					1.0	D	A	1F	*	1102				1103
	FAM	Intro Solo Ops	1104	X						1.0	D	A	2	*	1103				1104
	FAM	GCA Recovery	1105	X	X					1.0	D	A	2	*	1104				1105
	FAM	VFR Course Rules	1106	X						1.0	D	A	2	*	1105				1106
	FAM	FAM Check Ride	1107	X	X					1.0	D	A	2	*	1106				1107
FAM TOTAL							0	0.0	7	6.0									
INSTRUMENTS (INST)																				
INST	INST	GCA & TACAN	1201	X						1.0	D	A	1	*	1107				1201
	INST	Airways Nav	1202	X	X					1.0	D	A	1	*	1107				1202
INST TOTAL							0	0.0	2	2.0									
ALL WEATHER INTERCEPT (AWI)																				
AWI	AWI	Intro 1v1 Intercepts	1301	X						0.8	D	A	2	*	1107,1006,1010,1011				1301
	AWI	Review 1v1 Intercepts	1302	X	X					0.8	D	A	2	*	1301				1302
	AWI	Intro 2v2 Intercepts	1701	X						0.8	D	A	2	*	1302				1701
	AWI	Review 2v2 Intercepts	1702	X	X					0.8	D	A	2	*	1701				1702
AWI TOTAL							0	0.0	4	3.2									

				ATTAIN		MAINTAIN	ACAD		FLIGHT										
SKILL	**PREFIX**	**T&R DESCRIPTION**	**EVENT NUMBER**	**B**	**R**		**#**	**TIME**	**#**	**TIME**	**COND**	**TYPE**	**# A/C**	**REFLY**	**PREREQUISITE**	**PREREQUISITE NOTES**	**CHAINING**	**EOM**	**EVENT CONV**
F-5 PILOT T&R SYLLABUS MATRIX																			
									BASIC FIGHTER MANEUVERS (BFM)										
BFM	BFM	Offensive Perch	1401	X	X					0.8	D	A	2	*	1020,1301				1401
	BFM	Defensive Perch	1402	X	X					0.8	D	A	2	*	1401				1402
	BFM	1v1 HABFM	1403	X						0.8	D	A	2	*	1402				1403
	BFM	1v1 Butterfly HABFM	1404	X						0.8	D	A	2	*	1403				1404
	BFM	1 v 1 HABFM check	1405	X	X					0.8	D	A	2	*	1404				1405
	BFM	Intro 1v1 Dissimilar	1406	X	X					0.8	D	A	1	*	1405,6703	NTPS QUALIFIED			1406
	BFM	1v1 Dissimilar CAT IV	1407	X						0.8	D	A	1	*	1405,6703	NTPS QUALIFIED			1407
		BFM TOTAL					**0**	**0.0**	**7**	**5.6**									
									AIR-TO-AIR (AA)										
AA	AA	1v1v1 Similar	1601	X	X					0.8	D	A	3	*	1405,1030				1601
	AA	1v2 Dissimilar	1602	X						0.8	D	A	1	*	1406,1407				1602
	AA	2v1 Dissimilar	1603	X						0.8	D	A	2	*	1406,1407				1603
	AA	Intro 2vX support	1801	X	X					0.8	D	A	2	*	1702,1601,1602,1603,1031, 1032				1801
	AA	Prac 2vX support	1802	X						0.8	D	A	2	*	1801				1802
	AA	4vX support	1803	X	X					0.8	D	A	4	*	1801				1803
	AA	2vX, non-FRS	1804	X						0.8	D	A	2	*	1801				1804
	AA	2vX Tap the CAP	1805	X						0.8	D	A	2	*	1702,1602,1603				1805
	AA	ACM Qual Check Ride	1806	X	X	X				0.8	D	A	2	365	1801,1802,1803,1804,1805	AA PHASE TL COMPLETE			1806
		AA TOTAL					**0**	**0.0**	**9**	**7.2**									
		1000 PHASE TOTAL					**12**	**15.0**	**29**	**24.0**									
									CORE (2000 PHASE)										
									FAMILIARIZATION (FAM)										
FAM	FAM	FAM	2101	X	X	X				0.8	D	A	1	14	1806	CORE INTRO COMPLETE			2101
		FAM TOTAL					**0**	**0.0**	**1**	**0.8**									
									INSTRUMENTS (INST)										
INST	INST	Inst	2201	X	X	X				1.0	D	A	1	90	1806	CORE INTRO COMPLETE	2101		2201
		INST TOTAL					**0**	**0.0**	**1**	**1.0**									
									AIR-TO-GROUND (AG)										
AG	AG	AG	2301	X	X	X				0.8	D	A	2	365	1806	CORE INTRO COMPLETE	2101		2301
		AG TOTAL					**0**	**0.0**	**1**	**0.8**									
									LOW ALTITIUDE TACTICS (LAT)										
LAT	ACAD	MAWTS-1 TACAIR Common ASP LAT	2001	X				1.0				G		*					2001
	LAT	Intro LAT	2401	X						0.8	D	A	2	*	2001,2301		2101		2401
	LAT	LAT Qual	2402	X	X	X				0.8	D	A	2	180	2401		2101		2402
		LAT TOTAL					**1**	**1.0**	**3**	**2.4**									

SKILL	PREFIX	T&R DESCRIPTION	EVENT NUMBER	ATTAIN		MAINTAIN	ACAD		FLIGHT		COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING	EOM	EVENT CONV
				B	R		#	TIME	#	TIME									
															F-5 PILOT T&R SYLLABUS MATRIX				
										HELICOPTER ATTACK (HA)									
HA	HA	2v1-2 HA	2501	X						0.8	D	A	2	*	2402	LAT QUAL	2101,2402		2501
	HA	1v1-2 HA HA Qual Check	2502	X	X	X				0.8	D	A	2	180	2501		2101,2402		2502
		HA TOTAL					0	0.0	2	1.6									
										BASIC FIGHTER MANEUVERS (BFM)									
BFM	BFM	1v1 Similar	2601	X	X	X				0.8	D	A	2	30	1806		2101		2601
	BFM	1v1 Dissimilar CAT IV	2602	X	X	X				0.8	D	A	1	60	1806		2101		2602
	BFM	1v1v1	2603	X	X	X				0.8	D	A	3	90	1806		2101,2601		2603
	BFM	1v2 WVR	2604	X						0.8	D	A	1	*	1806		2101,2603,2602		2604
	BFM	2v1 WVR	2605	X						0.8	D	A	2	*	1806		2101,2603,2602		2605
	BFM	2v2 WVR	2606	X	X	X				0.8	D	A	2	90	1806		2101,2603,2602		2606
		BFM TOTAL					0	0.0	6	4.8									
										FIGHTER INTERCEPT (FI)									
FI	FI	1vX Intercepts	2701	X	X	X				0.8	D	A	1	90	1806		2101		2701
	FI	2+vX Intercepts	2702	X						0.8	D	A	2+	*	1806		2101,2701		2702
		FI TOTAL					0	0.0	2	1.6									
		2000 PHASE TOTAL					1	1.0	16	13.0									
										MISSION (3000 PHASE)									
										AIR-TO-AIR (AA)									
AA	AA	2v2 Dissimilar	3101	X	X	X				0.8	D	A	2	90	1806		2101,2701,3401,1806		3101
	AA	2v3+ Dissimilar	3102	X						0.8	D	A	2	*	1806		2101,3101,2701,3401,1806		3102
	AA	3+v2 Dissimilar	3103	X						0.8	D	A	3-4	*	1806		2101,3101,2701,3401,1806		3103
	AA	3+v3+ Dissimilar	3104	X	X	X				0.8	D	A	3-4	120	1806		2101,3101,2701,3401,1806		3104
	AA	5+vX Dissimilar	3105	X	X	X				0.8	D	A	5+	365	1806		2101,3104,3101,2701,3401,1806		3105
		AA TOTAL					0	0.0	5	4.0									
										HELICOPTER ATTACK (HA)									
HA	HA	1v1 HA	3201	X	X	X				0.8	D	A	1	180	2502		2101,2502,2402		3201
	HA	1v2 HA	3202	X						0.8	D	A	1	*	2502		2101,3201,2502,2402		3202
	HA	2v2 HA	3203	X						0.8	D	A	2	*	2502		2101,3201,2502,2402		3203
		HA TOTAL					0	0.0	3	2.4									
										SURFACE ATTACK (SA)									
SA	SA	Surface Attack	3301	X	X	X				0.8	D	A	1+	365	2301		2101,2301		3301
		SA TOTAL					0	0.0	1	0.8									
										COMMAND AND CONTROL (CC)									
CC	CC	Command and Control	3401	X	X	X				0.8	D	A	1	365			2101		3401
		CC TOTAL					0	0.0	1	0.8									
		3000 PHASE TOTAL					0	0.0	10	8.0									

				ATTAIN		MAINTAIN	ACAD		FLIGHT		COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING	EOM	EVENT CONV
SKILL	PREFIX	T&R DESCRIPTION	EVENT NUMBER	B	R		#	TIME	#	TIME									
F-5 PILOT T&R SYLLABUS MATRIX
CORE PLUS (4000 PHASE)
AIR-TO-AIR (AA)
AA	AA	7- Dissimilar mixed red	4101	X	X	X				0.8	D	A	2+	365	1806		2101,3105,3104,3101,2701,3401,1806		4101
	AA	8+ Dissimilar mixed red	4102	X						0.8	D	A	2+	*	1806		2101,4101,3105,3104,3101,2701,3401,1806		4102
colspan="3"	**AA TOTAL**					**0**	**0.0**	**2**	**1.6**									
ANTI-AIR-WARFARE (AAW)
AAW	AAW	2vX IADS	4201	X	X	X				0.8	D	A	2	365	1806		2101,3105,3104,3101,2701,3401,1806		4201
	AAW	2+vX IADS	4202	X						0.8	D	A	2+	*	1806		2101,4201,3105,3104,3101,2701,3401,1806		4202
colspan="3"	**AAW TOTAL**					**0**	**0.0**	**2**	**1.6**									
HELICOPTER ATTACK (HA)
HA	HA	2+vX HA	4301	X	X	X				0.8	D	A	2+	365	2502		2101,3201,2502,2402		4301
colspan="3"	**HA TOTAL**					**0**	**0.0**	**1**	**0.8**									
SURFACE ATTACK (SA)
SA	SA	CAS	4401	X	X	X				0.8	D	A	1+	365	2301		2101,3301,2301		4401
colspan="3"	**SA TOTAL**					**0**	**0.0**	**1**	**0.8**									
NIGHT SUPPORT (NSPT
NSPT	ACAD	Brief on Night Procedures with a night current ATI	4001	X				1.0				G		*					4001
	NSPT	Night FAM	4501	X	X	X				0.8	N	A	1	30	1806,4001		2101		4501
	NSPT	Night Inst	4502	X	X					1.0	N	A	1	*	4501		2101,2201		4502
	NSPT	Night Form	4503	X	X					0.8	N	A	2	*	4502		2101,4501		4503
	NSPT	Night 1v1 AWI	4504	X	X					0.8	N	A	2	*	4503		2101,4501,2701,3401		4504
	NSPT	Night 2vX AWI	4505	X	X					0.8	N	A	2	*	4504		2101,4501,2701,3401		4505
	NSPT	Night Support 1vX	4506	X						0.8	N	A	1	*	4505		2101,4501,2701,3401,1806		4506
	NSPT	Night Support 2vX	4507	X						0.8	N	A	2	*	4505		2101,4501,3101,2701,3401,1806		4507
	NSPT	Night Support 2+vX	4508	X						0.8	N	A	2+	*	4505		2101,4501,3104,3101,2701,3401,1806		4508
colspan="3"	**NSPT TOTAL**					**1**	**1.0**	**8**	**6.6**									
colspan="3"	**4000 PHASE TOTAL**					**1**	**1.0**	**14**	**11.4**									

SKILL	PREFIX	T&R DESCRIPTION	EVENT NUMBER	ATTAIN B	ATTAIN R	MAINTAIN	ACAD #	ACAD TIME	FLIGHT #	FLIGHT TIME	COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING	EOM	EVENT CONV
		F-5 PILOT T&R SYLLABUS MATRIX																	
		INSTRUCTOR TRAINING (5000 PHASE)																	
		ACADEMICS (ACAD)																	
ACAD	ACAD	USMC T&R Program Manual -LAT Rules of Conduct	5011	X	X			1.0						*					5011
	ACAD	MAWTS-1 TACAIR Common ASP - LAT	5012	X	X			1.0						*					5012
	ACAD	Observe Ground School given by FAMI	5021	X	X			1.0						*					5021
	ACAD	VMFT-401 Lecture, "FAMI instructional Techniques"	5022	X	X			1.0						*					5022
	ACAD	Give Off/Def/HABFM Chalk Talk	5031	X	X			1.0						*					5031
	ACAD	AFTTP 3-1 Threat Guide Fighter Aircraft and Armament	5032	X				1.0						*					5032
	ACAD	Review NASIC Playbooks Russia / China	5033	X				1.0						*					5033
	ACAD	Review TOPGUN Manual "Adversary"	5034	X	X			1.0						*					5034
	ACAD	Give "Adversary Planning and Employment" Lecture	5035	X	X			1.0						*					5035
		ACAD TOTAL					9	9.0	0	0.0									
		LOW ALTITIUDE TACTICS INSTRUCTOR (LATI)																	
LATI	LATI	LAT Ld & Chase	5101	X	X					0.8	D	A	2	*	5011,5012	DIV LD	2101,2402		5101
	LATI	Sect LAT & HA	5102	X	X					0.8	D	A	2	*	5101		2101,2402		5102
		LATI TOTAL					0	0.0	2	1.6									
		FAMILIARIZATION INSTRUCTOR (FAMI)																	
FAMI	FAMI	Back Seat FAMI	5201	X	X					1.0	D	A	1F	*	5021,5022	NI / ANI	2101		5201
	FAMI	Back Seat FAMI	5202	X	X					1.0	D	A	1F	*	5201		2101		5202
		FAMI TOTAL					0	0.0	2	2.0									
		INSTRUCTOR (ATI)																	
ATI	ATI	1v1 BFM (Dissimilar concepts)	5301	X	X					0.8	D	A	2	*	5031	MC	2101,2601		5301
	ATI	1v1 BFM F-5 vs F-5	5302	X	X					0.8	D	A	2	*	5301		2101,2601		5302
	ATI	2vX Dissimilar	5303	X	X					0.8	D	A	2	*	5032,5033,5034		2101,3101,2701,3401		5303
	ATI	4+vX Dissimilar	5304	X	X					0.8	D	A	3-4	*	5301,5302,5303,5035		2101,3104,3101,2701,3401		5304
		ATI TOTAL					0	0.0	4	3.2									
		Advanced Adversary Instructor																	
AAI	AAI	NFWS Adversary course	5401	X	X		1	1.5						*		DIV LD			5401
	AAI	MDTC Adversary course	5402	X	X		1	1.5						*		DIV LD			
	AAI	MATI Course	5403	X	X		1	1.5						*		MC			
		AAI TOTAL					3	4.5	0	0.0									

SKILL	PREFIX	T&R DESCRIPTION	EVENT NUMBER	ATTAIN		MAINTAIN	ACAD		FLIGHT		COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING	EOM	EVENT CONV
				B	R		#	TIME	#	TIME									
		F-5 PILOT T&R SYLLABUS MATRIX																	
		REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, & DESIGNATION (RCQD) (600 PHASE)																	
		ACADEMICS (ACAD)																	
ACAD	ACAD	SOP / TACSOP Review	6051	X				1.0						*					6051
	ACAD	TOPGUN Manual "Adversary" Sect III Bandit Pres Dev	6052	X				1.0						*					6052
	ACAD	TOPGUN Manual "Adversary" Section V Red Air Execution	6053	X				1.0						*					6053
	ACAD	TOPGUN Manual "A/A Mission Planning"	6054	X				1.0						*					6054
	ACAD	TOPGUN Manual "FA-18 Air-to-Air Employment"	6055	X				1.0						*					6055
	ACAD	Review Adversary Threat Replication Guide (ATRG)	6056	X	X			1.0						*					6056
	ACAD	Receive Lecture "Adversary Planning and Employment"	6057	X	X			1.0						*					6057
	ACAD	NASIC Playbooks Russia / China	6061	X				1.0						*					6061
	ACAD	Review TOPGUN Manual "Adversary" Sect III	6062	X				1.0						*					6062
	ACAD	Review TOPGUN Manual "Adversary" Sect V	6063	X				1.0						*					6063
	ACAD	Review Adversary Threat Replication Guide (ATRG)	6064	X	X			1.0						*					6064
	ACAD	TOPGUN Manual "Large Force Employment"	6071	X				1.0						*					6071
	ACAD	AFTTP 3-1 Threat Guide Air and Air Defense Employment	6072	X				1.0						*					6072
	ACAD	VMFT-401 Lecture, "PMCF Techniques"	6081	X	X			1.0						*					6081
		ACAD TOTAL					**14**	**14.0**	**0**	**0.0**									

SKILL	PREFIX	T&R DESCRIPTION	EVENT NUMBER	ATTAIN		MAINTAIN	ACAD		FLIGHT		COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING	EOM	EVENT CONV
				B	R		#	TIME	#	TIME									
												F-5 PILOT T&R SYLLABUS MATRIX								
												SPT								
SPT	SPT	SPT LVL 1 IR ONLY	6011	X	X						(NS)			*					6011
	SPT	SPT LVL 1 SAR-1	6012	X	X						(NS)			*					6012
	SPT	SPT LVL 1 SAR-2	6013	X	X						(NS)			*					6013
	SPT	SPT LVL AR-1/2	6014	X	X						(NS)			*					6014
	SPT	SPT LVL 2 IR ONLY	6021	X	X						(NS)			*					6021
	SPT	SPT LVL 2 SAR-1	6022	X	X						(NS)			*					6022
	SPT	SPT LVL 2 SAR-2	6023	X	X						(NS)			*					6023
	SPT	SPT LVL 2 AR-1/2	6024	X	X						(NS)			*					6024
	SPT	SPT LVL 3 IR ONLY	6031	X	X						(NS)			*					6031
	SPT	SPT LVL 3 SAR-1	6032	X	X						(NS)			*					6032
	SPT	SPT LVL 3 SAR-2	6033	X	X						(NS)			*					6033
	SPT	SPT LVL 3 AR-1/2	6034	X	X						(NS)			*					6034
	SPT	SPT LVL 4 IR ONLY	6041	X	X						(NS)			*					6041
	SPT	SPT LVL 4 SAR-1	6042	X	X						(NS)			*					6042
	SPT	SPT LVL 4 SAR-2	6043	X	X						(NS)			*					6043
	SPT	SPT LVL 4 AR-1/2	6044	X	X						(NS)			*					6044
		SPT TOTAL					**0**	**0.0**	**0**	**0.0**									
												TRACKING (TRK)								
TRK	TRK	TRK BACKSEAT LDG	6101	X															6101
	TRK	TRK DRAGCHUTE LDG	6102	X															6102
	TRK	TRK INSUFFICIENT ORD	6103	X															6103
	TRK	TRK DISSIMILAR NOT AVAIL	6104	X															6104
	TRK	TRK FLIGHT 4+	6154	X															6154
												SECTION LEADER WORK-UP (SLWU)								
SLWU	SLWU	SLWU 1V1 SIMILAR BFM	6201	X	X					0.8	D	A	2	*	6051,6052,6053,6054,6055, 6056,6057	ACMQ,LATQ,HAQ, 50+HRS IN F-5	2101,2601		6201
	SLWU	SLWU 1+1V2 TTC / 2v2 SEM	6202	X	X					0.8	D	A	2	*	6201		2101,2603		6202
	SLWU	SLWU 2VX ADVERSARY SPT	6203	X						0.8	D	A	2	*	6201		2101,3101,2701,3401		6203
	SLWU	SLWU 4VX AS DASH-3	6204	X	X					0.8	D	A	4	*	6203		2101,3104,3101,2701,3401		6204
	SLWU	SLWU 2VX NON-FRS	6205	X						0.8	D	A	2	*	6203		2101,3101,2701,3401		6205
	SLWU	SLWU 2VX HA	6206	X	X					0.8	D	A	2	*	6201		2101,3201,2502,2402		6206
	SLWU	RTO 2VX	6207	X	X					0.0		G	0	*	6051,6052,6053,6054,6055, 6056,6057				6207
	SLWU	SLWU CHECK 2VX W/ LVL 3/4 TASKING	6208	X	X					0.8	D	A	2	*	6201,6202,6203,6204,6205, 6206,6207		2101,3101,2701,3401		6208
		SLWU TOTAL					**0**	**0.0**	**8**	**5.6**									

SKILL	PREFIX	T&R DESCRIPTION	EVENT NUMBER	ATTAIN		MAINTAIN	ACAD		FLIGHT		COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING	EOM	EVENT CONV
				B	R		#	TIME	#	TIME									
											F-5 PILOT T&R SYLLABUS MATRIX								
											DIVISION LEADER WORK-UP (DLWU)								
DLWU	DLWU	DLWU 4VX FRS	6301	X						0.8	D	A	4	*	6061,6062,6063,6064	SECT LD, 75+ HRS IN F-5	2101,3104,3101,2701,3401		6301
	DLWU	DLWU 4VX NON-FRS	6302	X	X					0.8	D	A	4	*	6301		2101,3104,3101,2701,3401		6302
	DLWU	DLWU LFE	6303	X	X					0.8	D	A	4	*	6301		2101,3104,3101,2701,3401		6303
	DLWU	RTO 4VX	6304	X	X					0.0		G	0	*	6061,6062,6063,6064				6304
	DLWU	DLWU 4VX CHECK NON-FRS LVL 3+	6305	X	X					0.8	D	A	4	*	6301,6302,6303,6304		2101,3104,3101,2701,3401		6305
		DLWU TOTAL					**0**	**0.0**	**5**	**3.2**									
											MISSION COMMANDER WORK-UP (MCWU)								
MCWU	MCWU	MCWU ANY MULTI-ELEMENT ADVERSARY PKG	6401	X						0.8	D	A	6-8	*	6071,6072	DL, 100+ HRS IN F-5, AT LEAST 1 WTI COURSE & 2 WTI LFE'S	2101,3105,3104,3101,2701,3401		6401
	MCWU	MCWU MULTI-ELEMENT ADVERSARY PKG W MIXED RED AIR	6402	X	X					0.8	D	A	6-8	*	6401		2101,4101,3105,3104,3101,2701,3401		6402
	MCWU	RTO XVX LFE	6403	X	X					0.0		G	0	*	6071,6072				6403
	MCWU	MCWU CHECK ANY MULTI-ELEMENT ADVERSARY PKG	6404	X	X					0.8	D	A	6-8	*	6401,6402,6403		2101,3105,3104,3101,2701,3401		6404
		MCWU TOTAL					**0**	**0.0**	**4**	**2.4**									
											POST MAINTENANCE CHECK FLIGHT (PMCF)								
PMCF	PMCF	PMCFQ DUAL A-CARD	6501	X	X					1.0	D	A	1F	*	6081	DIV LD, ONE YEAR 250+HOURS	2101		6501
	PMCF	PMCFQ SOLO A-CARD, DESIGNATION FLIGHT	6502	X	X					1.0	D	A	1	*	6501		2101		6502
	PMCF	PMCF PROFICIENCY	6503	X	X	X				1.0	D	A	1	90	6502		2101		6503
		PMCF TOTAL					**0**	**0.0**	**3**	**3.0**									
											NATOPS (NTPS)								
NTPS	NTPS	NATOPS OPEN BOOK	6701	X	X	X	1	3.0						365	IAW F-5 NATOPS			X	6701
	NTPS	NATOPS CLOSED BOOK	6702	X	X	X	1	1.5						365				X	6702
	NTPS	NATOPS CHECK FLIGHT	6703	X	X	X				1.0	D	A	1F,2N	365	6701,6702		2101	X	6703
	NTPS	CRM	6704	X	X	X	1	8.0						365				X	6704
		NTPS TOTAL					**3**	**12.5**	**1**	**1.0**									
											INSTRUMENTS (INST)								
INST	INST	INSTRUMENT GROUND SCHOOL	6801	X	X	X	1	8.0						365		IAW OPNAVINST 3710.7		X	6801
	INST	INSTRUMENT WRITTEN EXAM	6802	X	X	X	1	1.5						365				X	6802
	INST	INSTRUMENT CHECK FLIGHT	6803	X	X	X				1.0	D	A	1F, 2N	365	6801,6802		2201	X	6803
		INST TOTAL					**2**	**9.5**	**1**	**1.0**									

2.20 ATTAIN AND MAINTAIN MATRIX (2000-4000 PHASE)

SKILL	PREFIX	T&R DESCRIPTION	BASIC POI	REFRESHER POI	MAINTAIN POI	COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING
F-5 PILOT ATTAIN AND MAINTAIN MATRIX (2000-4000 PHASE)
CORE (2000 PHASE)
FAMILIARIZATION (FAM)
FAM	FAM	FAM	2101	2101	2101	D	A	1	14	1806	CORE INTRO COMPLETE	
INSTRUMENTS (INST)
INST	INST	Inst	2201	2201	2201	D	A	1	90	1806	CORE INTRO COMPLETE	2101
AIR-TO-GROUND (AG)
AG	AG	AG	2301	2301	2301	D	A	2	365	1806	CORE INTRO COMPLETE	2101
LOW ALTITIUDE TACTICS (LAT)
LAT	ACAD	MAWTS-1 TACAIR	2001				G		*			
	LAT	Intro LAT	2401			D	A	2	*	2001,2301		2101
	LAT	LAT Qual	2402	2402	2402	D	A	2	180	2401		2101
HELICOPTER ATTACK (HA)
HA	HA	2v1-2 HA	2501			D	A	2	*	2402	LAT QUAL	2101,2402
	HA	1v1-2 HA HA Qual Check	2502	2502	2502	D	A	2	180	2501		2101,2402
BASIC FIGHTER MANEUVERS (BFM)
BFM	BFM	1v1 Similar	2601	2601	2601	D	A	2	30	1806		2101
	BFM	1v1 Dissimilar CAT IV	2602	2602	2602	D	A	1	60	1806		2101
	BFM	1v1v1	2603	2603	2603	D	A	3	90	1806		2101,2601
	BFM	1v2 WVR	2604			D	A	1	*	1806		2101,2603,2602
	BFM	2v1 WVR	2605			D	A	2	*	1806		2101,2603,2602
	BFM	2v2 WVR	2606	2606	2606	D	A	2	90	1806		2101,2603,2602
FIGHTER INTERCEPT (FI)
FI	FI	1vX Intercepts	2701	2701	2701	D	A	1	90	1806		2101
	FI	2+vX Intercepts	2702			D	A	2+	*	1806		2101,2701

			BASIC POI	REFRESHER POI	MAINTAIN POI	COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING
SKILL	PREFIX	T&R DESCRIPTION										

SKILL	PREFIX	T&R DESCRIPTION	BASIC POI	REFRESHER POI	MAINTAIN POI	COND	TYPE	# A/C	REFLY	PREREQUISITE	PREREQUISITE NOTES	CHAINING
F-5 PILOT ATTAIN AND MAINTAIN MATRIX (2000-4000 PHASE)											
MISSION (3000 PHASE)											
AIR-TO-AIR (AA)											
AA	AA	2v2 Dissimilar	3101	3101	3101	D	A	2	90	1806		2101,2701,3401,1806
	AA	2v3+ Dissimilar	3102			D	A	2	*	1806		2101,3101,2701,3401,1806
	AA	3+v2 Dissimilar	3103			D	A	3-4	*	1806		2101,3101,2701,3401,1806
	AA	3+v3+ Dissimilar	3104	3104	3104	D	A	3-4	120	1806		2101,3101,2701,3401,1806
	AA	5+vX Dissimilar	3105	3105	3105	D	A	5+	365	1806		2101,3104,3101,2701,3401,1806
HELICOPTER ATTACK (HA)											
HA	HA	1v1 HA	3201	3201	3201	D	A	1	180	2502		2101,2502,2402
	HA	1v2 HA	3202			D	A	1	*	2502		2101,3201,2502,2402
	HA	2v2 HA	3203			D	A	2	*	2502		2101,3201,2502,2402
SURFACE ATTACK (SA)											
SA	SA	Surface Attack	3301	3301	3301	D	A	1+	365	2301		2101,2301
COMMAND AND CONTROL (CC)											
CC	CC	Command and Control	3401	3401	3401	D	A	1	365			2101
CORE PLUS (4000 PHASE)											
AIR-TO-AIR (AA)											
AA	AA	7- Dissimilar mixed red	4101	4101	4101	D	A	2+	365	1806		2101,3105,3104,3101,2701,3401,1806
	AA	8+ Dissimilar mixed red	4102			D	A	2+	*	1806		2101,4101,3105,3104,3101,2701,3401,1806
ANTI-AIR-WARFARE (AAW)											
AAW	AAW	2vX IADS	4201	4201	4201	D	A	2	365	1806		2101,3105,3104,3101,2701,3401,1806
	AAW	2+vX IADS	4202			D	A	2+	*	1806		2101,4201,3105,3104,3101,2701,3401,1806
HELICOPTER ATTACK (HA)											
HA	HA	2+vX HA	4301	4301	4301	D	A	2+	365	2502		2101,3201,2502,2402
SURFACE ATTACK (SA)											
SA	SA	CAS	4401	4401	4401	D	A	1+	365	2301		2101,3301,2301
NIGHT SUPPORT (NSPT)											
NSPT	ACAD	Night Procedures	4001				G		*			
	NSPT	Night FAM	4501	4501	4501	N	A	1	30	1806,4001		2101
	NSPT	Night Inst	4502	4502		N	A	1	*	4501		2101,2201
	NSPT	Night Form	4503	4503		N	A	2	*	4502		2101,4501
	NSPT	Night 1v1 AWI	4504	4504		N	A	2	*	4503		2101,4501,2701,3401
	NSPT	Night 2vX AWI	4505	4505		N	A	2	*	4504		2101,4501,2701,3401
	NSPT	Night Support 1vX	4506			N	A	1	*	4505		2101,4501,2701,3401,1806
	NSPT	Night Support 2vX	4507			N	A	2	*	4505		2101,4501,3101,2701,3401,1806
	NSPT	Night Support 2+vX	4508			N	A	2+	*	4505		2101,4501,3104,3101,2701,3401,1806

2.21 RANGE AND ORDNANCE MATRIX (1000-6000 PHASE)

SKILL	STAGE	T&R DESCRIPTION	EVENT NUMBER	ORDNANCE	ORD QUAN	RANGE	RANGE NOTES	EXTERNAL SYLLABUS SUPPORT
				F-5 PILOT ORDNANCE AND RANGE MATRIX				
				CORE INTRODUCTION (1000 PHASE)				
				FAMILIARIZATION (FAM)				
	FAM	Taxi FAM	1101	NONE				
	FAM	First FAM	1102	NONE		RSTD	SFC-30k	
	FAM	Safe for Solo check	1103	NONE		RSTD	SFC-30k	GCA
FAM	FAM	Intro Solo Ops	1104	NONE		RSTD	SFC-30k	
	FAM	GCA Recovery	1105	NONE		RSTD	SFC-30k	GCA
	FAM	VFR Course Rules	1106	NONE		RSTD	SFC-30k	
	FAM	FAM Check Ride	1107	NONE		RSTD	SFC-30k	GCA
				INSTRUMENTS (INST)				
INST	INST	GCA & TACAN	1201	NONE				AFLD W/PRECISION AND NON-PRECISION APPROACHES (PAR/ASR)
	INST	Airways Nav	1202	NONE				AFLD W/PRECISION AND NON-PRECISION APPROACHES (PAR/ASR)
				ALL WEATHER INTERCEPT (AWI)				
	AWI	Intro 1v1 Intercepts	1301	NONE		RSTD,GCI	RSTD SFC-30k	
AWI	AWI	Review 1v1 Intercepts	1302	NONE		RSTD,GCI	SFC-30k	
	AWI	Intro 2v2 Intercepts	1701	NONE		RSTD,TACTS,GCI	SFC-30k	2FTRS
	AWI	Review 2v2 Intercepts	1702	NONE		RSTD,TACTS,GCI	SFC-30k	2FTRS
				BASIC FIGHTER MANEUVERS (BFM)				
	BFM	Offensive Perch	1401	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	BFM	Defensive Perch	1402	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	BFM	1v1 HABFM	1403	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
BFM	BFM	1v1 Butterfly HABFM	1404	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	BFM	1 v 1 HABFM check	1405	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	BFM	Intro 1v1 Dissimilar	1406	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	FTR W/ ACTI/FAI
	BFM	1v1 Dissimilar CAT IV	1407	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	FTR W/ ACTI/FAI
				AIR-TO-AIR (AA)				
	AA	1v1v1 Similar	1601	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	AA	1v2 Dissimilar	1602	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	2 FTR W/ ACTI/FAI
	AA	2v1 Dissimilar	1603	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	FTR
	AA	Intro 2vX support	1801	CATM-9,FLARES	1,10	RSTD,GCI,TACTS	SFC-FL310	2 FTR
AA	AA	Prac 2vX support	1802	CATM-9,FLARES	1,10	RSTD,GCI,TACTS	SFC-FL310	2 FTR
	AA	4vX support	1803	CATM-9,FLARES	1,10	RSTD,GCI,TACTS	SFC-FL310	2+FTR
	AA	2vX, non-FRS	1804	CATM-9,FLARES	1,10	RSTD,GCI,TACTS	SFC-FL310	2+FTR
	AA	2vX Tap the CAP	1805	CATM-9,FLARES	1,10	RSTD,GCI,TACTS	SFC-FL310	2+FTR
	AA	ACM Qual Check Ride	1806	CATM-9,FLARES	1,10	RSTD,GCI,TACTS	SFC-FL310	2+FTR

SKILL	**STAGE**	**T&R DESCRIPTION**	**EVENT NUMBER**	**ORDNANCE**	**ORD QUAN**	**RANGE**	**RANGE NOTES**	**EXTERNAL SYLLABUS SUPPORT**

(Columns: SKILL, STAGE, T&R DESCRIPTION, EVENT NUMBER, ORDNANCE, ORD QUAN, RANGE, RANGE NOTES, EXTERNAL SYLLABUS SUPPORT)

SKILL	STAGE	T&R DESCRIPTION	EVENT NUMBER	ORDNANCE	ORD QUAN	RANGE	RANGE NOTES	EXTERNAL SYLLABUS SUPPORT
F-5 PILOT ORDNANCE AND RANGE MATRIX								
CORE (2000 PHASE)								
FAMILIARIZATION (FAM)								
FAM	FAM	FAM	2101	NONE		RSTD	SFC-30k	
INSTRUMENTS (INST)								
INST	INST	Inst	2201					PAR/ASR REQUIRED
AIR-TO-GROUND (AG								
AG	AG	AG	2301	NONE		RSTD	SFC-30k	
LOW ALTITIUDE TACTICS (LAT)								
LAT	LAT	Intro LAT	2401			RSTD	SFC-5K	
	LAT	LAT Qual	2402			RSTD	SFC-5K	
	LAT	LAT Currency	2403			RSTD	SFC-5K	
HELICOPTER ATTACK (HA)								
HA	HA	2v1-2 HA	2501	CATM-9,FLARES	1,10	RSTD	SFC-5K	1-2 HELO
	HA	1v1-2 HA HA Qual Check	2502	CATM-9,FLARES	1,10	RSTD	SFC-5K	1 HELO
BASIC FIGHTER MANEUVERS (BFM)								
BFM	BFM	1v1 Similar	2601	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	BFM	1v1 Dissimilar CAT IV	2602	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	BFM	1v1v1	2603	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL310	
	BFM	1v2 WVR	2604	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	BFM	2v1 WVR	2605	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	BFM	2v2 WVR	2606	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
FIGHTER INTERCEPT (FI)								
FI	FI	1vX Intercepts	2701	NONE		GCI		
	FI	2+vX Intercepts	2702	NONE		GCI		
MISSION (3000 PHASE)								
AIR-TO-AIR (AA)								
AA	AA	2v2 Dissimilar	3101	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL400	
	AA	2v3+ Dissimilar	3102	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL400	
	AA	3+v2 Dissimilar	3103	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL400	
	AA	3+v3+ Dissimilar	3104	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL400	
	AA	5+vX Dissimilar	3105	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL400	
HELICOPTER ATTACK (HA)								
HA	HA	1v1 HA	3201	CATM-9,FLARES	1,10	RSTD	SFC-5K	1 HELO
	HA	1v2 HA	3202	CATM-9,FLARES	1,10	RSTD	SFC-5K	2 HELO
	HA	2v2 HA	3203	CATM-9,FLARES	1,10	RSTD	SFC-5K	2 HELO

SKILL	STAGE	T&R DESCRIPTION	EVENT NUMBER	ORDNANCE	ORD QUAN	RANGE	RANGE NOTES	EXTERNAL SYLLABUS SUPPORT
F-5 PILOT ORDNANCE AND RANGE MATRIX							
SURFACE ATTACK (SA)							
SA	SA	Surface Attack	3301	NONE		RSTD	SFC-20K	UHF COMM
COMMAND AND CONTROL (CC)							
CC	CC	Command and Control	3401	NONE				GCI/AIC REQUIRED
CORE PLUS (4000 PHASE)							
AIR-TO-AIR (AA)							
AA	AA	7- Dissimilar mixed red	4101	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL400	ADDITIONAL RED AIR
	AA	8+ Dissimilar mixed red	4102	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL400	
ANTI-AIR-WARFARE (AAW)							
AAW	AAW	2vX IADS	4201	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL400	IADS,RTO
	AAW	2+vX IADS	4202	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL400	IADS,ADD'L RED AIR,RTO
HELICOPTER ATTACK (HA)							
HA	HA	2+vX HA	4301	CATM-9,FLARES	1,10	RSTD	SFC-5K	3+ HELO
SURFACE ATTACK (SA)							
SA	SA	CAS	4401	CATM-9,FLARES	1,10	RSTD	SFC-20K	FAC
NIGHT SUPPORT (NSPT)							
NSPT	NSPT	Night FAM	4501	NONE		RSTD	SFC-25K	
	NSPT	Night Inst	4502	NONE				
	NSPT	Night Form	4503	NONE		RSTD	SFC-25K	
	NSPT	Night 1v1 AWI	4504	NONE		RSTD,TACTS,GCI	SFC-25K	
	NSPT	Night 2vX AWI	4505	NONE		RSTD,TACTS,GCI	SFC-25K	
	NSPT	Night Support 1vX	4506	NONE		RSTD,TACTS,GCI	SFC-25K	
	NSPT	Night Support 2vX	4507	NONE		RSTD,TACTS,GCI	SFC-25K	
	NSPT	Night Support 2+vX	4508	NONE		RSTD,TACTS,GCI	SFC-25K	
INSTRUCTOR TRAINING (5000 PHASE)							
LOW ALTITIUDE TACTICS INSTRUCTOR (LATI)							
LATI	LATI	LAT Ld & Chase	5101	NONE		RSTD	SFC-5K	
	LATI	Sect LAT & HA	5102	NONE		RSTD	SFC-5K	
FAMILIARIZATION INSTRUCTOR (FAMI)							
FAMI	FAMI	Back Seat FAMI	5201	NONE		RSTD	SFC-30k	
	FAMI	Back Seat FAMI	5202	NONE		RSTD	SFC-30k	

F-5 PILOT ORDNANCE AND RANGE MATRIX
SKILL	**STAGE**	**T&R DESCRIPTION**	**EVENT NUMBER**	**ORDNANCE**	**ORD QUAN**	**RANGE**	**RANGE NOTES**	**EXTERNAL SYLLABUS SUPPORT**
INSTRUCTOR (ATI)
ATI	ATI	1v1 BFM (Dissimilar concepts)	5301	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	ATI	1v1 BFM F-5 vs F-5	5302	CATM-9,FLARES	1,10	RSTD,TACTS	SFC-FL310	
	ATI	2vX Dissimilar	5303	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL310	
	ATI	4+vX Dissimilar	5304	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL310	
REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, & DESIGNATION (RCQD) (600 PHASE)
SECTION LEADER WORK-UP (SLWU)
SLWU	SLWU	SLWU 1V1 SIMILAR BFM	6201	CATM-9,FLARES	1,10	RSTD	SFC-FL300	
	SLWU	SLWU 1+1V2 TTC / 2v2 SEM	6202	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL300	
	SLWU	SLWU 2VX ADVERSARY SPT	6203	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
	SLWU	SLWU 4VX AS DASH-3	6204	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
	SLWU	SLWU 2VX NON-FRS	6205	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
	SLWU	SLWU 2VX HA	6206	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-10K	
	SLWU	RTO 2VX	6207			TACTS,GCI		
	SLWU	SLWU CHECK 2VX W/ LVL 3/4 TASKING	6208	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
DIVISION LEADER WORK-UP (DLWU)
DLWU	DLWU	DLWU 4VX FRS	6301	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
	DLWU	DLWU 4VX NON-FRS	6302	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
	DLWU	DLWU LFE	6303	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
	DLWU	RTO 4VX	6304			TACTS,GCI		
	DLWU	DLWU 4VX CHECK NON-FRS LVL 3+	6305	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
MISSION COMMANDER WORK-UP (MCWU)
MCWU	MCWU	MCWU ANY MULTI-ELEMENT ADVERSARY PKG	6401	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
	MCWU	MCWU MULTI-ELEMENT ADVERSARY PKG W MIXED RED AIR	6402	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	
	MCWU	RTO XVX LFE	6403			TACTS,GCI		
	MCWU	MCWU CHECK ANY MULTI-ELEMENT ADVERSARY PKG	6404	CATM-9,FLARES	1,10	RSTD,TACTS,GCI	SFC-FL500	

SKILL	STAGE	T&R DESCRIPTION	EVENT NUMBER	ORDNANCE	ORD QUAN	RANGE	RANGE NOTES	EXTERNAL SYLLABUS SUPPORT
F-5 PILOT ORDNANCE AND RANGE MATRIX								
POST MAINTENANCE CHECK FLIGHT (PMCF)								
PMCF	PMCF	PMCFQ DUAL A-CARD	6501	NONE		RSTD	SFC-FL500	
	PMCF	PMCFQ SOLO A-CARD, DESIGNATION FLIGHT	6502	NONE		RSTD	SFC-FL500	
	PMCF	PMCF PROFICIENCY	6503	NONE		RSTD	SFC-FL500	
NATOPS (NTPS)								
NTPS	NTPS	NATOPS OPEN BOOK	6701					
	NTPS	NATOPS CLOSED BOOK	6702					
	NTPS	NATOPS CHECK FLIGHT	6703			RSTD	SFC-30K	
	NTPS	CRM	6704					
INSTRUMENTS (INST)								
INST	INST	INSTRUMENT GROUND SCHOOL	6801					
	INST	INSTRUMENT WRITTEN EXAM	6802					
	INST	INSTRUMENT CHECK FLIGHT	6803			RSTD	SFC-30K	

APPENDIX A

F-5 NATOPS EVALUATION

1. VMFT-401 NATOPS evaluations may be conducted on any scheduled event, to include operational support events. The F-5F shall be used to the max extent possible for the evaluation with the evaluator in the back seat. Two F-5E/N's may be used if a F-5F is not available, with the evaluator as a chase aircraft or wingman.

   (a) NATOPS evaluation briefs shall be 1.5 hours prior to scheduled takeoff. All NATOPS evaluations shall be conducted IAW OPNAVINST 3710.7 Series, NATOPS flight manuals, and other applicable directives, instructions and orders.

   (b) **F-5F NATOPS Evaluation**:
         Alternate Gear Extension/retract Gear

         Shut down right engine

         Wipe out controls to observe right hyd gauge and caution light

         Right engine Airborne Restart (Either Method)

         Burn down to RTB

         Simulated singe engine recovery (ASR/PAR)

         Missed approach to tower downwind

         Full flap roll and go

         No flaps roll and go

         Full flap drag chute landing

         Once lined up with parking spot:
              1) Hike the nose strut
              2) Shut down left engine (Verify L GEN caution illum at 43%)
              3) Tail hook Button - Push (Observe de-hike and illum of Hook button light)
              4) Taxi forward using auxiliary brakes/differential braking

   (c) **F-5E/N NATOPS Evaluation (Chased)**
         10 second or section go takeoff
         Alternate gear extension
         Burn down to RTB
         Simulated single engine approach (chased ASR/PAR)
         Missed Approach
         Simulated NORDO wingman (evaluator) approach (ASR/PAR)
         Wingman separates to a roll and go
         Lead turns tower downwind off a missed approach
         Full flap roll and go
         No flaps roll and go
         Full flap drag chute landing
         Once lined up with parking spot:
              5) Hike the nose strut
              6) Shut down left engine (Verify L GEN caution illum at 43%)
              7) Tail hook Button - Push (Observe de-hike and illum of Hook button light)
              8) Taxi forward using auxiliary brakes/differential braking