



Flying Operations

**FLYING TRAINING AND GROUND
TRAINING FOR PILOTS (PA)**

COMPLIANCE WITH THIS INSTRUCTION IS MANDATORY

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*This instruction prescribes training required to ensure all 419 FW F-16 pilots at Hill AFB, UT, attain and maintain established training requisites. It implements AFPD 11-4, *Aviation Service*. It applies to all 466 FS F-16 pilots and all attached pilots.

This instruction is affected by the Privacy Act (PA) of 1974. Authority to attain this information is 10 U.S.C. 8012 and E.O. 9397. The 419 FW Form 7, **Newcomers Input Data Work sheet**, prescribed by this instruction requires personal information for use in tracking flying and ground training.

***SUMMARY OF REVISIONS**

*This revision incorporates the requirements, and procedures formerly in 419 FWI 11-1, *Flying Training and Ground Operations*, reorganizes text, and changes many requirements and procedures. Chapter 1: added paragraph 1.2 Goals to implement Quality Air Force processes; 1.5.1. the operations support flight training officer coordinates and publishes the Long Range Training Plan. Chapter 2: realigned ground training tables 2.1.,2.2., 2.3. to conform to MCI 11-F16, Vol 1, *Pilot Training--F16*. Chapter 5: added mission capable/basic qualification flying training and deleted references to mission support flying. Chapter 6: added paragraph 6.9. killer scout upgrade training; paragraph 6.10. mission commander certification; paragraph 6.11. low/slow speed EID/VID procedures; paragraph 6.12. night vision goggle training, and deleted paragraph 6.7. range control officer certification. Chapter 8 added flight planning/weapons delivery computer training. Chapter 9: added paragraph 9.1. goals and metrics and 9.2. measuring devices to implement Quality Air Force processes. A * indicates a revision from the previous edition.

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Chapter 1

BASIC POLICIES AND RESPONSIBILITIES

1.1. References. See Attachment 1.

***1.2 Goal.** FLY, FIGHT, AND WIN! ---Combat Readiness for all Pilots and Support Personnel.

1.2.1. Ground Training and Specialized Academic Training Goal.

1.2.1.1. **All.** Complete all functional, general, and awareness training as described in Chapter 2 of this instruction.

1.2.1.2. **Pilots.** Complete specialized academic training as described in Chapter 8 of this instruction.

1.2.2. **Initial Qualification and Mission Qualification Training Goal.** Pilots complete all syllabus requirements described in Chapters 3 and 4 to the satisfaction of the instructor pilots, the SEFE, and the commander.

1.2.3. **Continuation Training Goal.** Pilots perform in all tasked squadron combat missions to the satisfaction of the commander.

1.2.4. **MTT/SEPT Goal.** Pilots perform mission events and emergency procedures described in Chapter 7 to the satisfaction of the instructor pilots, the SEFE, and the Commander.

*1.2.5. **Metrics.** Measuring devices are described in Chapter 9.

1.3. Requirements:

1.3.1. **Annual Requirement.** A requirement of one year frequency is due the last day of the month of a twelve month period. For example an annual requirement accomplished on 16 December 1995 is due again by 31 December 1996. A requirement due every three years accomplished on 2 November 1995 is due NLT 30 November 1998. GCC tasking message uses this rule.

1.3.2. **Semi-annual and Quarterly.** These requirements are due by the last day of the last month of the period. GCC tasking message annual events may also use this rule.

1.4. Policies:

1.4.1. **Status.** Upgrade pilots attain and maintain mission capable (MC) or mission ready (MR) status as stated in MCI 11-F16V1, *Pilot Training--F16*.

1.4.2. **Waiver.** The operations group commander ensures waiver requests for excess upgrade time are submitted as stated in MCI 11-F16V1, Pilot Training

1.4.3. **Record Review.** As a minimum the squadron commander, operations officer, and training officers review the records of newly assigned pilots for total flying time, fighter experience, unit equipped (UE) flying time, and special qualifications/abilities in order to determine upgrade training requirements.

1.4.4. **Training Approval.** The squadron commander/operations officer approves the pilots' upgrade training requirements letter. The letter is maintained in the individual's grade folder, Section 1.

1.5. Responsibilities:

*1.5.1. 419 OSF/DOT. Coordinates and publishes the Long Range Training Plan.

1.5.2. Squadron Training Officer:

1.5.2.1. **Prerequisites.** Ensures all prerequisites for flight have been accomplished. Completes the upgrade requirements letter and places it in the individual's grade folder. Ensures data from the 419 FW Form 7, **Newcomers Input Data Worksheet**, and attendance/ accomplishment of appropriate training tasks are placed into the deployable AFORMS computer.

1.5.2.2. **Corrections.** Ensures any training deficiency is corrected expeditiously.

1.5.2.3. **Quality.** Maintains overall quality/control of individual grade folders, and ensures any deficiencies are corrected.

1.5.2.4. **Proration.** Informs the commander of the need to prorate/adjust training requirements according to MCI 11-F16V1. Documents prorations as appropriate, normally in deployable AFORMS.

1.5.3. Each Pilot:

1.5.3.1. **Requirements.** Is knowledgeable of all training requirements for each phase of training.

1.5.3.2. **Training folders.** Maintains training folders by ensuring all required documentation is accomplished in a timely manner. Documentation of all upgrade progress is accomplished on 419 FW Form 11, **Individual Mission Gradesheet**, and placed in the individuals training folder.

1.5.2.3.3. **Discrepancies.** Ensures training folder discrepancies that are not correctable are brought to the attention of the squadron training officer.

Chapter 2

GROUND TRAINING

2.1. General:

2.1.1. **Ground Training.** The purpose of this chapter is to consolidate all ground training requirements prescribed by MCI 11-F16V1, this instruction; and other regulations as noted in tables 2-1, 2-2, and 2-3. The objective of all training and testing will be to increase the proficiency and knowledge of pilots in attaining and maintaining the desired combat-ready status. The ground training program has been established to accomplish the majority of training on an individual or group basis during the unit training assembly (UTA).

2.1.2. **Schedule.** A three-year training plan is maintained by the wing training officer and is used to forecast monthly training needs. A detailed six month training plan is maintained and managed by squadron training officer. UTA schedules outlining activities and instructors are published prior to each UTA.

2.1.3. **Requirements.** This regulation has categorized ground training into three functional categories as prescribed by MCI 11-F16V1. Each table details specific training required, applicable directive, frequency, and OPR. These requirements are:

2.1.3.1. **I. Functional and Additional Training.**

2.1.3.2. **II. General Training.**

2.1.3.3. **III. Awareness Training.**

NOTE: Tables 2.1., 2.2., and 2.3. show all ground training requirements.

2.2. UTA Training Schedule:

2.2.1. **Overall Schedule.** The unit ancillary (ground) training program is scheduled to ensure appropriate requirements are completed in accordance with the three-year training plan. Newly assigned personnel are normally scheduled for training given during the previous 90 days.

2.2.2. **Unit Training Assembly (UTA) Ground Training.** Prior to each UTA the training officer coordinates with other functional areas to determine what personnel require specialized testing and training. The squadron training officer schedules ground training activities, i.e., CW SEPTs, MTTs, egress/hanging harness, etc., on the flying training day for pilots who are not flying. On the ground training day approximately six hours are available for ground training. Platform and academic briefings are scheduled by the training officer. Make-up training is by videotape, or individually scheduled by the training officer. **See table 2.1., table 2.2. and table 2.3 for other items included in training.**

2.2.3. **Flying Training.** Combat profile missions are planned quarterly. Normally, at least one UTA semi-annually includes a full-scale weapons delivery with live/inert ordnance.

2.3. **Documentation.** Use the AFORMS system to document training for members of the fighter squadron. Use AF Form 1522, **AFORMS Additional Training Accomplishment Input** or 419 FW Form 17, **466FS AFORMS Ancillary Training Input Form** as source documents.

*2.4. **Make-up Training.** Ground Training. Training periods during the year are extremely limited, and it is imperative that all pilots attend training sessions when held. However, it is also necessary that UTAs be rescheduled for individuals with problems regarding health, employment, etc. In order to accommodate the changes, ground training sessions are videotaped to facilitate makeup of training. The ground training day should only be rescheduled to a date after the UTA, if at all possible, to allow the tapes to be viewed. The tapes are normally viewed at the first period worked after the UTA. Pilots may fly through the last day of the month prior to making up the UTA ground training. Pilots will be grounded on the first day of the following month if make-up training has not been accomplished. When squadron members make up their UTA, they report to the training officer or the ART representative who monitors the make-up training and ensure that it is accomplished/documented. UTA training is monitored and tracked on the 466 FS GO/NO GO computer system.

2.5. I - Functional and Additional Training:

2.5.1. **Training Requirements.** See table 2.1.

*2.5.2. **Documentation of Training.** AFORMS.

2.5.3. **Method of Accomplishment:**

*2.5.3.1. **Weapons and Tactics Training and Testing.** Weapons and tactics academics will normally be scheduled monthly. The weapons and tactics test is required annually.

*2.5.3.2. **Verification.** New squadron pilots will verify during UTA on a Checkered Flag scenario within 120 days of MR certification. This will be coordinated with DOK and IN. If no Initial Verifications have been accomplished within the calendar year, DOT will schedule a verification seminar to be conducted during the November or December UTA.

2.5.3.3. **Intelligence Training.** Scheduled monthly at UTA on current events and selected topics determined by IN.

*2.5.3.4. **Self-aid and Buddy Care.** Initial training is given in the unit and recurring training is given every two years. Topics covered include first-aid training.

2.5.3.5. **Stan/Eval Training/Requirements.** This section contains all stan/eval requirements. Scheduling, in coordination with stan/eval, schedules all pilots for these requirements and tracks

their completion. Wing stan/eval officer schedules Annual Instrument Refresher Course (IRC) in conjunction with the training officer.

*2.5.3.6. **Plans Briefing.** Briefing presented annually by the wing operations plans officer at UTA. Topics include OPlan and dispersal taskings as well as status of wing plans.

2.5.3.7. **Handgun Training.** At present 9 MM caliber handgun training is required every two years. If an individual is non-prior qualified, squadron training officer schedules them for initial training.

2.5.3.8. **Centrifuge Training.** The policy of this squadron is that all F-16 pilots complete this training. Squadron training officer schedules pilots who arrive without this training documented on their AF Form 702, **Individual Physiological Training Record.**

2.5.3.9. **Flight Physicals.** Physicals normally are scheduled on the morning of the UTA fly day two months before the member's due date. Any make-ups are normally scheduled on another UTA.

2.5.3.10 **Chemical Warfare (CW) Training:**

2.5.3.10.1. **Initial Chemical Warfare Ground Training.** This training is required for all personnel. Required ground training is taught by disaster preparedness within 90 days of assignment. Topics covered include protective mask, ground crew ensemble, chemical threat, decon/antidote procedures, etc.

*2.5.3.10.2. **Continuation CW Ground Equipment Training.** Training is required every 24 months but wing policy is to schedule it on an 18 month basis. Training will be given to pilots by Disaster Preparedness usually just prior to the annual Chemical Warfare Exercise.

2.5.3.10.3. **Initial CW Flight.** Squadron training officer schedules all pilots for a flight in CW gear if not previously qualified.

2.5.3.10.4. **Continuation CW Flying Equipment Training.** Annual training given by life support.

2.5.3.10.5. **Initial CW Sim/SEPT.** Given by Life Support for those not previously trained.

2.5.3.10.6. **Continuation CW SEPT and CW Egress/Hanging Harness.** Training is accomplished during semi-annual egress/hanging harness during the October to March time frame.

2.5.3.10.7. **Chemical Warfare Defense Exercise.** This training is required for all squadron personnel, and is usually conducted during a scheduled UTA. It simulates a deployment to a chemical high-threat area. It is conducted by the operations group commander, and exercises all

wing agencies. The annual unit CW exercise is an integral part of this unit's combat environment training and is used to conduct the necessary continuation training on decon procedures. Individuals who miss the mass decon line are processed individually by wing disaster preparedness section.

Table 2.1. Functional Training.

Table 2.1. CATEGORY 1 – FUNCTIONAL TRAINING					
TRAINING REQUIREMENTS	APPLICABLE DIRECTIVE	APPLICABLE TO	FREQUENCY OF TRAINING	AFFECT MR	OPR RSP FOR TNG
WEAPONS & TACTICS ACADEMICS TEST	MCI 11-F16V1	PILOTS	1/MO (DESIRED) 1/YR	YES	466FS/DOK
VERIFICATION- INITIAL RECURRENCY	MCI 11-F16V1	PILOTS	1 18 MOs	YES YES	466FS/DOK DOT
INTELLIGENCE- ISO PREP CARD INTEL TEST SAM THREAT ANTI-ACFT ARTY AIRCRAFT RECOG A-A MISSILES THREAT AIRCRAFT NAVAL THREAT SERE COLLECT & REPORT CODE OF CONDUCT	MCI 11-F16V1 ACCR 200-1	PILOTS	1/YR	YES	466FS/DOI
SELF AID AND BUDDY CARE	AFI 36-2238	ALL ON MOBILITY	1/2 YR	NO	419 MDS
STAN/EVAL- TAC QUAL CHECK TAC EPE INST CHECKRIDE INSTRUMENT EPE CLOSED BOOK EXAM OPEN BOOK EXAM IRC EXAM INITIAL IP CHECK	AFI 11-408 ACC SUP 1	PILOTS	1/17MO 1/17MO 1/17MO 1/17MO 1/17MO 1/17MO 1/12MO 1	YES	419 FW/OGV
PLANS BRIEFING	AFI 10-401	PILOTS	1/YR	YES	419 FW/XP
HANDGUN QUAL	AFI 36-2226	PILOTS Custodians	2/YR	YES	419 SPS/SPC
CENTRIFUGE	AFI 11-404	PILOTS	1	YES	466 FS/DOT

PHYSICAL	AFI 11-401	PILOTS	1/12MO	YES	419 MDS
CHEM WARFARE- INITIAL CW-GND CONT CW-GND	AFI 32-4001 AFI 32-4002 AFPD 32-40	ALL ON MOBILITY	1 ½ YR (18 Mo Pefer)	GOD-NO FLY-YES	419 CES 419 CES
INITIAL CW-FLY CONT CW-FLY	MCI 11-V16V1	PILOTS	1 1/YR		466 FS/DOT 466 FS/DOT
INT CW SIX/SEPT CONT CW SEPT	MCI 11-V16V1		1 1/YR		466 FS/DOT 466 FS/DOT
CW EGRESS/ HANGING HARNESS	MCI 11-V16V1 ACCI 11-201	PILOTS	1/YR		466 FS/DOL
CW DEF TNG/EX	MCI 11-F16V1	ALL ON MOBILITY	1/YR		419 OG/CC

2.6. II - General Training:

2.6.1. **Training Requirement. Table 2.2.** Documentation of Training. AFORMS.

2.6.2. Method of Accomplishment and Course Content:

*2.6.2.1. **Instrument Refresher Course.** IRC training is to be completed during the first quarter of the calendar year. The preferred method of accomplishment is academics and briefings provided by civilian contract. Additional briefings are provided by Flying Safety, Flight Surgeon, and Training. The annual requirement for G-Awareness training is accomplished during IRC training. A combination of video tapes and classroom instruction may be utilized. The training officer retains the video tapes for one year for pilots to accomplish make-up training.

*2.6.2.2. **Flying Safety Meeting.** Scheduled monthly at UTA. required quarterly as prescribed by AFI 91-202, *The US Air Force Mishap Prevention Program*. Monitored and tracked under the normal UTA training procedures.

*2.6.2.3. **Life Support Training.** This training will be coordinated by DOT and DOL with emphasis on making the training as realistic as possible. Combat Edge training is prescribed by MCI 11-F16V1 and ACCI 11-301, *Aircrew Life Support Program* for initial academic training, equipment familiarization, and continuation training and inspection.

*2.6.2.4. **Situational Emergency Procedures Training (SEPT).** SEPT's are required monthly and are a grounding item until accomplished. They should be performed in flight meetings at UTA utilizing the revolving SEPT training program managed by 419OSF. SEPT's will include F-16 mishaps/incidents, discussion of two EP's for each phase of flight, and, in at least two SEPT's per period, include discussion of min fuel and emergency divert training with a squadron supervisor. The Multi Task Trainer (MTT) should be utilized when available.

*2.6.2.5. **Multi-task Trainer (MTT).** Four tactical and four Emergency Procedures MTT's should be accomplished per year. One MTT event per year should be accomplished in Chemical Warfare (CW) gear. Pilots will normally accomplish the CW MTT immediately following their annual CW egress/hanging harness training.

2.6.2.6. **Supervisor of Flying Training.** All SOF-qualified pilots normally accomplish refresher training during the January UTA. Accomplish make up on the following UTA or as soon as possible. Squadron training officer is responsible for documenting training accomplished. All SOF's will accomplish an annual exam administered by 419OG/CV.

2.6.2.7. **Physiological Training.** Training should be scheduled at least three months prior to due date. Pilots are responsible for scheduling their own training and ensuring that orders are prepared. They must take their AF Form 702, **Individual Physiological Training Record** and a copy of their current AF Form 1042, **Medical Recommendation for Flying or Special Operational Duty** with them to training. Documentation of training is made by the Physiological Training Unit on the individual's AF Form 702, and in AFORMS.

2.6.2.8. **Accident Briefing.** Briefing is presented twice annually by public affairs. Topics covered include individual actions required in the event of an aircraft accident.

*2.6.2.9. **Security Education Phase 1, Part 1.** Training given within the unit upon assignment. Topics include restricted area badges, escorts, and challenging.

2.6.2.10. **Security Education Phase 1, Part II.** Training given within the unit upon assignment. Topics include restricted area badges, escorts, and challenging.

*2.6.2.11. **Human Relations and Substance Abuse.** Briefing given at wing INTRO and annually thereafter. This course is required within 120 days of assignment. Topics include discrimination, sexual harassment, and policies on drug use and testing.

*2.6.2.12. **OPSEC.** Briefing given to newcomers at INTRO. Topics covered include types of security incidents, accountability and control of classified materials, and challenging classifications. Annual training is given in the squadron by the 466FS OPSEC monitor.

2.6.2.13. **Communications Computer Systems Security Education Training and Awareness Program (ETAP).** Briefing given to newcomers at INTRO. Topics covered include computer security, terrorism, bomb threats, information security, espionage, and protection of classified material.

2.6.2.14. **Uniform Code of Military Justice (UCMJ).** Conducted monthly at wing intro for new enlisted personnel upon arrival, again after basic training and reenlistment. Topics covered include the military justice system.

2.6.2.15. **Aerobics and Physical Conditioning.** Flying an F-16 in a combat environment (training or real) is a strenuous physical activity. Physical conditioning consisting of weight training, neck exercises, and moderate aerobic training increases G tolerance and physical stamina.

2.6.3.15.1. **Authorization.** Physical conditioning should be performed on a regular basis. Time may be authorized to schedule one's program during the day rather than relegating the program to the time left over each day. Heavy physical conditioning should be avoided just prior to a scheduled aircraft sortie.

2.6.3.15.2. **Weight Training.** Weight training should be geared toward toning versus building. Recommended exercises are arm curls, bent over rowing, bench press, upright rowing, lat machine pull downs, chin ups, or behind the neck chin ups, sit-ups, leg presses or half squats, and calf raises. Weight training should be accomplished three times a week, every other day.

2.6.3.15.3. **Neck Exercises.** Neck exercises should be isotonic, with either manual or weight resistance. Accomplish three days a week in conjunction with weight training.

2.6.3.15.4. **Aerobic Training.** Aerobic training consists of twenty to thirty minutes per day at the increased heart rate three times a week. Running distance should not exceed three miles per day. Alternate aerobic conditioning days with weight training/neck exercising days for maximum benefit.

2.6.3.16. **Weigh-in.** Conducted annually by squadron administration for all squadron personnel.

*2.6.3.17. **Social Actions.** Scheduled by the training officer upon initial assignment and as new requirements from higher headquarters dictate.

2.6.3.18. **Aircrew Attention Awareness Management Training (AAMP) and Crew Resource Management (CRM).** Each pilot is required to participate in one session per cycle.

2.6.3.19. **Supervisors Safety Training.** Conducted monthly by wing safety office for all NCO's, Sgts, and SrA's in supervisory positions; 2nd and 1st Lieutenant's at their first base of assignment; all first level supervisors who have not previously attended. Topics covered include supervisory responsibility for providing safe and healthful working conditions in their areas.

2.6.3.20. **Local Conditions, Course II.** Briefing given at wing INTRO. Topics include local laws, local weather conditions which effect driving, and mishap facts.

2.6.3.21. **Base Populace.** Given to newcomers in pamphlet form. Topics covered include natural disasters, protective shelters, and major accident actions.

Table 2.2. General Training.

Table 2.2. II – GENERAL TRAINING					
TRAINING REQUIREMENTS	APPLICABLE DIRECTIVE	APPLICABLE TO	FREQUENCY OF TRAINING	GROUNDING	OPR RSP FOR TNG
INSTRUMENT REFREASHER COURSE	AFI 11-408/ SUP 1 AFPD 11-4	PILOTS	1/YR	NO	466FS/DOV
FLYING SAFETY MEETING	AFI 91-202	PILOTS	1/QUARTER	NO	419 FW/SE
LIFE SUPPORT- LIFE SPT EQUIP LOCAL SURV ACAD WATER SURV ACAD WET DRILL COMBAT EDGE FIT COMBAT EDGE AC G-SUIT FIT	ACCI 11-301	PILOTS	1/YR 1/YR ½YR ½YR 1 1 1/6MO	YES	466 FS/DOL

COMBAT SURV TNG BASIC SURVIVAL BASIC WATER SURV EGRESS/HARN	AFI 36-2209 AFI 36-2209 ACCI 11-301		1/YR 1 1/6MO		
SITUATION EMER PROCEDURE TNG	MCI 11-F16V1	PILOTS	1/MO	YES	466 FS/DOT
MULTI TASK TRAINER (OFT)	MCI 11-F16V1	PILOTS	2/6MO	NO	466 FS/DOT
SUPERVISOR OF FLYING TRAINING	MCI 11-463	SOFs	INITIAL EXAM 1/YR	NO	419 OG/CD
PHYSIOLOGICAL	AFI 11-403	PILOTS	1/36MO	YES	466 FS/DOT
ACCIDENT BRIEFING	AFI 91-202	ALL	2/YR	NO	419 FW/PA
SECURITY ED PHASE I, PART I	AFI 31-209	ALL	1	NO	419 SPS
SECURITY ED PHASE I, PART II	AFI 31-209	ALL WITH LINE BADGE	1	NO	419 OSF/IN
HUM REL/SUB ABUSE	AFR 36-2701	ALL	1	NO	419 FW/SA
OPSEC	AFI 10-1101	ALL	1	NO	419 FW/XP
COMPUTER SYSTEM/ ETAP SECURITY	AFI 36-2201	ALL	1/YR	NO	419 FW/CS
UCMJ	AFI 36-2201	ENLISTED	1	NO	419 FW/JA
AEROBICS AND PHYSICAL COND	419 FWI 11-401	ALL	1/YR	NO	466 FS/DOT
WEIGH-IN	419 FWI 11-401	ALL	1/YR	NO	466 FS/CCQ
*SOCIAL ACTIONS	AFI 36-2706	ALL	INITIAL ¼ YR	NO	419 FW/SA
*AAMP/CRM	MCI 11-F16V1	ALL	1/YR	YES	419 FW/QI
SUPERVISORS SAFETY TRAINING	AFI 91-301	SUPER- VISORS	1	NO	419 FW/SE
LOCAL CONDITIONS COURSE II	AFI 91-207	ALL	1	NO	419 FW/SE
BASE POPULACE	AFI 13-212	ALL	1	NO	419 CES

2.7. III - Awareness Training:

2.7.1. **Training Requirements. Table 2.3.**

2.7.2. **Documentation of Training.** Formal documentation of these items is not required.

2.7.3. **Method of Accomplishment and Training Content.** Awareness training is conducted informally through newspaper articles, bulletin boards, commanders calls, posters, read-and-sign items, etc.

2.7.3.1. **Standards of Conduct.** Ethical standards of conduct, conflict of interest laws, and reporting requirements.

*2.7.3.2. **Prevention of Dangerous Military Activities.** Review of MAJCOM furnished MOP video tapes and a squadron briefing on established communication procedures outlined in local inflight guides.

*2.7.3.3. **Protection of the President.** Briefed to selected personnel when required.

2.7.3.4. **Law of Armed Conflict.** Briefing presented annually by the wing judge advocate at wing commanders call. Topics covered include law of war, legal weapons, subjects of lawful attack, and captured/detained personnel.

Table 2.3. Awareness Training.

Table 2.3. III – AWARENESS TRAINING					
TRAINING REQUIREMENTS	APPLICABLE DIRECTIVE	APPLICABLE TO	FREQUENCY OF TRAINING	GROUNDING	OPR RSP FOR TNG
STANDARDS OF CONDUCT	AFPD 51-9	ALL	1/YR	NO	419 FW/JA
US/USSR PREVENTION OF DANGEROUS MILITARY ACTIVITIES	JCS MOP 2	ALL	ANNUAL/DEPLOY	NO	419 FW/XP
PROTECTION OF THE PRESIDENT	AFI 71-101V1	PILOTS	AS REQ'D	NO	419 FW/XP
LAW OF ARMED CONFLICT	AFR 11-32	ALL	AS REQ'D	NO	419 FW/JA

Chapter 3

INITIAL QUALIFICATION TRAINING

3.1. Local Pilot Upgrade. Conduct local pilot upgrade/recurrency training as prescribed in MCI 11-F16V1, this instruction, and, when applicable, selected ACC syllabi. Upgrade training is conducted to the highest graduated combat capability (GCC) level supportable by sortie rate and in the minimum practical time. Requalification training is applicable to pilots whose flight currency has not exceeded 18 months in the F-16 aircraft unless a waiver is granted by HQ AFRES. Upon completion, each pilot is fully qualified in the F-16 aircraft, and will then enter mission qualification training (MQT). Initial qualification training (IQT) is conducted at formal training units if at all possible, **see table 3.1.**

3.2. Training Requirements. 466 FS/DOT determines upgrade requirements for each pilot according to regulations based upon previous qualifications and date of last flight. The operations and training officer reviews grade folders, replacement training unit (RTU) records, flight time records, weapons currency records, and the flight evaluation folder. The data obtained from these sources are used to validate qualifications and establish the training entry level.

3.2.1. In-Processing. The newly assigned pilot completes and submits the following forms to the 466 FS/DOT prior to beginning academic/flight training: Requirements to Fly Work sheet; 419 FW Form 7, and AF Form 883, **Privacy Act Statement (PA).**

3.2.2. Ground Training. Assign each pilot a primary flight instructor and an academic instructor. The primary flight instructor oversees the upgrader's overall program and flies with the pilot on the first three sorties (TR-1 through TR-3) if in a 180-day plus recurrency or complete IQT program.

3.2.2.1. Academics. Academics may be administered by different personnel, however, the primary academic instructor ensures that continuity and quality of instruction are maintained. Pilots in requalification training may validate blocks of instruction by passing a written test on that section. Local area procedures and squadron standards are included in this instruction. Initial weapons and tactics testing also take place during this phase.

***3.2.2.2. Life Support Training.** All life support training/issue of flying equipment is completed prior to the first flight. This will include Combat Edge training.

3.2.2.3. SEPT Training. Accomplish SEPT training as prescribed in MCI 11-F16V1 and applicable supplements. Use the multi-task trainer for instruments/emergency procedures review (if available). SEPT training is documented on 419 FW Form 6, **466 FS AFORMS Input Training Form.**

3.2.3. Flying Training. Accomplish flying training as prescribed in MCI 11-F16V1. Track all IQT accomplishments on the IQT program worksheet.

*3.2.3.1 **Timeliness.** The IQT program will be completed within the time constraints of the current active duty RTU IQT program. Failure to complete training within the specified time requires notification as prescribed by MCI 11-F16V1Ch 2.

3.3. Non-pilot Crew Flying Training. Flight Surgeons/GLOs/ARLOs may be authorized flight status in the F-16D. Specific training requirements are listed in MCI 11-F16V1. WSOs/EWOs and rated life support officers assigned to the squadron follow the same procedures outlined for flight surgeons.

3.3.1. Use the following procedures to implement the training program:

3.3.1.1. **Academic Instructor.** The 466 FS/DOT identifies the academic instructor for requisite academics.

3.3.1.2. **Academic Agenda.** Academics include engine, fuel system, electrical system, flight controls, hydraulic systems, avionics systems interface, environmental control system, and F-16 flight characteristics. Modify academic material/depth to cover what is pertinent as a nonpilot crew member. Upon completion of the academic program, accomplish the closed book "Flight Surgeon's Test." This test is administered and graded by 419 OG/OGV and accomplished prior to the first flight. The minimum passing score is 85 percent corrected to 100 percent.

3.3.1.3. **Life Support.** Life support issues flying gear and conducts hanging harness, egress, and other life support training as required before the first flight.

3.3.1.4. **SEPT.** Accomplish a one hour instrument/ emergency procedures CFT that is supervised by an instructor pilot prior to flight training.

3.3.2. **Flight Training:**

3.3.2.1. **Supervision.** All flights are flown with an IP.

3.3.2.2. **Brief.** As a minimum briefing will stress crew coordination, communications equipment, instrument interpretation, aircraft performance envelope, flight profile, and cockpit layout.

3.3.3. **Documentation:**

3.3.3.1. **Additional Training.** Clearance for the individual to fly subsequent flights unrestricted or with requirements to fly additional sorties for specific remedial training/flight restrictions are documented on the flight surgeon/EWO/LSO flight training worksheet.

3.3.3.2. **Computer Documentation.** The individual's flight training work sheet is maintained in their folder by the 466 FS/DOT until it is documented in the computer program as prescribed in AFMAN 37-139, *Records Disposition Schedule*.

3.3.3.3. **Life Support Tracking.** The individual's life support training is maintained by AFORMS tracking system with a copy in life support section.

3.4. Grade Folder Instructions. Examples of grade sheets used for IQT, MQT, and specialized upgrade training are contained in the sample grade book in the grade book file. Blank grade slips are available in the training office.

3.4.1. **Location.** Grade folders are centrally located in the 466 FS/DOT and readily available for review by supervisory personnel, instructors, and individual pilots. Individual pilots are ultimately responsible for the upkeep and currency of their grade folder.

3.4.2. **Preparation.** Prepare pilot grade folders using a six-section folder to match the format of the sample grade book found in the training file.

3.4.3. **Training Folder Review.** Supervisors review the training folders and initial the review certification on the flying upgrade program cover sheet prior to the pilot's first flight. Instructors review the grade folders and initial the pilot information sheet prior to their first flight with the pilot. Instructors/flight leads who have not previously flown with a particular pilot review the training folder and the grade sheets.

3.4.4. **Grade Sheet Completion.** As operational upgrade training is conducted, complete an individual training mission grade sheet for each IQT, MQT, or continuation upgrade flying mission and designated simulator missions. File grade sheets in the individual training folder. Complete grade sheets as soon as practical after each mission but not later than one working day following the mission.

3.4.4.1. **MTT Missions.** Designated instructors/SEFEs complete a grade sheet for required graded simulator/MTT missions. Pilots/instructors completes an AFTO Form 781, **AFORM Aircrew/Mission Flight Data Document** to document flying time.

3.4.4.2. **Grading Sections.** Complete all items on the grade sheet or explain in the remarks section. Place a "X" in the appropriate box.

3.4.4.3. **Grading Levels.** Comments and corrective action are required for all grades of one or less. The overall grade should reflect the upgrader's ability to perform in that mission and progress on to more demanding tasks.

3.4.4.4. **Grading Continuity.** Emphasis is placed on proper continuity between grades and remarks.

3.4.4.5. **VTR Review.** Review VTR tapes on all graded missions.

3.4.5. **Grading Criteria.** Grading criteria for completion of grade sheets is standard among the IPs. The remarks section is used to record performance details and recommendations for

improvement. It may include informal records of weapons scores, but the only official scores are those recorded on form 107 report, **Weapons Delivery Qualification Record**.

3.4.6. **Checkride.** When a mission or instrument/qualification evaluation (checkride) mission is flown and an AF Form 8, **Certificate of Aircrew Qualification**, is completed, annotate it on the mission recap sheet if the individual is in IQT/MQT upgrade training.

3.4.7. **Worksheet Completion.** Upon completion of each upgrade mission, IPs make an entry on the appropriate mission recap sheet and program worksheet. At the completion of flying upgrade training, 466 FS/DOT ensures an entry is made on the program worksheet stating that training has been completed.

3.4.8. **Disposition of Grade Folder Contents.** Maintains all grade folder documentation as prescribed in AFMAN 37-139. (normally three months retention).

3.5. 419 FW Requalification Training Syllabus:

3.5.1. **Training Device Profiles.** See chapter 7.

3.5.1.1. **MTT-100** (Cockpit Familiarization, 1:1 Ratio, 1.5 Hours).

3.5.1.2. **MTT-101** (Normal and Emergency Operations, 1:1 Ratio, 1.5 Hours).

3.5.1.3. **MTT-102.** (Emergency Procedures, 1:1 Ratio, 1.5 Hours). Must be accomplished prior to TR-4.

Table 3.1. Initial Qualification Training (Requalification Training).

Table 3.1. INITIAL QUALIFICATION TRAINING (REQUALIFICATION TRAINING)	
MTT-100	COCKPIT FAMILIARIZATION
MTT-101	NORMAL AND EMERGENCY OPERATIONS
MTT-102	INSTRUMENT/EMERGENCY PROCEDURES EVALUATION
TR-1	SINGLE-SHIP FLIGHT (D-MODEL)
TR-2	TWO-SHIP BASIC FLIGHT
TR-3	TWO-SHIP INITIAL SOLO
TR-4	TWO SHIP STAN/EVAL INITIAL QUALIFICATION/INSTRUMENT CHECK
TR-5	SINGLE/TWO-SHIP NIGHT SORTIE

3.5.2. Flying Training General Instructions.

3.5.2.1. **Incomplete Missions.** Missions on which student performance met the acceptable standard but all mission objectives were not accomplished may be designated as effective/incomplete if omitted items can be performed on future missions with no degradation of training.

3.5.2.2. **Complete Missions.** Once an event or task has been satisfactorily accomplished, it may be performed on subsequent missions.

3.5.2.3. **Alternate Missions.** Alternate mission profiles are limited to instruments, acrobatic and advanced handling maneuvers, briefed mission events, and/or mission profiles that have been flown on a previous syllabus training sortie.

3.5.2.4. **G-Awareness.** All IQT pilots will be fully briefed and trained in Combat Edge prior to conducting any high G flight maneuvers. Accomplish a G warm-up/tolerance maneuver at the beginning of all tactical missions. The G warm-up/tolerance maneuver prescribed in MCI 11-F16V1, and Chapter 5 of this instruction is mandatory for a warm-up exercise.

3.5.2.5. **Air Refueling.** AAR may be flown any time after basic formation proficiency ("2" level) is achieved, and may be flown as often as resources allow.

3.5.2.6. Flight Briefings/IP Responsibility:

3.5.2.6.1. **Briefing Responsibilities.** Student pilots will not brief and lead syllabus missions except as noted in 6.2. below. This restriction does not prohibit a student from briefing mission responsibilities. When the syllabus requires an IP chase or requires the student to fly lead position for a specified period, the student does not become a designated flight lead. The IP retains lead of the flight and overall responsibility for the conduct of the mission.

3.5.2.6.2. **Student Brief.** Students may brief elements of, or all of the practice checkride TR-3 and the checkride TR-4, depending on previous aircraft qualification, flight lead status, and experience.

3.5.2.7. **Proficiency.** Wing formation takeoff, close formation, weapon system check, fence check, formation approach, instrument approaches, and SFOs should be accomplished as often as necessary after being introduced to maintain proficiency in these tasks.

3.5.2.8. **Solo Capability.** TR-2 may be flown solo if proficiency so warrants and resources are available.

3.5.2.9. **Minimum Approaches.** Students will satisfactorily accomplish at least one TACAN, one ILS, and one PAR/ASR prior to checkride.

3.5.2.10. **Minimum SFO Patterns.** Students will satisfactorily accomplish at least one SFO (either straight in or overhead) prior to being cleared solo.

3.5.2.11. **VMC Clearance.** Without a current F-16 instrument rating, solo students will fly VMC until successful completion of TR-4.

3.5.2.12. **Requalification Sorties.** Fly missions TR-2 and TR-3 for pilots requiring 91-180 day requalification training (from loss of landing currency). Fly missions TR-1, 2, 3, 4, and 5 for pilots requiring 181 days to 18 months requalification training.

3.5.3. **Mission Scenarios:**

3.5.3.1. **TR-1.** (Aircraft: F-16D; Time: 1.4; Crew: Upgrader/IP).

3.5.3.1.1. **Mission Objectives.** Introduce the G warm-up/tolerance maneuver; avionics displays and functions; confidence maneuvers; advanced handling maneuvers; aerobatics; SFO approaches; VFR patterns; ILS/PAR; and landings.

3.5.3.1.2. **Specific Mission Tasks.** Single-ship takeoff, departure, enroute navigation, G warm-up/tolerance, AGSM, performance demonstrations, confidence maneuvers, advanced handling maneuvers, aerobatics, unusual attitude recoveries, avionics orientation, IFR recovery, instrument approach, missed approach, SFO approaches, VFR patterns, touch-and-go landings, full stop landing.

3.5.3.2. **TR-2** (Aircraft: 2 F-16Cs; Time: 1.4; Crew: IP, Upgrader). Introduce solo flight.

3.5.3.2.1. **Mission Objectives.** AB takeoff, join-up, basic formation, G warm-up/tolerance maneuver from line abreast formation, AGSM, tactical formation, lost wingman exercise, formation instrument approaches, low approaches, and HUD-out approaches. Practice advanced handling, confidence maneuvers, aerobatics, VFR patterns and landings.

3.5.3.2.2. **Specific Mission Tasks.** Single-ship AB takeoff; join-up; basic formation practice (close, route, crossunders, echelon, pitchout/rejoin), lost wingman exercise, tactical formation; G warmup/tolerance maneuver; confidence maneuvers; advanced handling maneuvers; aerobatics; instrument recovery and approaches; SFO; VFR patterns (at least one HUD-out); and landings.

3.5.3.3. **TR-3** (Aircraft: 2 F-16Cs; Time: 1.4; Crew: Upgrader, IP [chase]).

3.5.3.3.1. **Mission Objectives.** Review ride in preparation for TR-4 (student brief).

3.5.3.3.2. **Specific Mission Tasks.** Briefing; single-ship takeoff; SID, navigation, basic and tactical formation, AGSM, steep turns, nose-high recovery, aerobatics, advanced handling, TACAN holding, penetration and approach, ILS, PAR, SFO, and VFR patterns.

3.5.3.4. **TR-4** (Aircraft: 2 F-16Cs or 1 F-16D; Time: 1.4; Crew: Upgrader, SEFE, or Upgrader/SEFE).

3.5.3.4.1. **Mission Objectives.** Stan/eval initial qualification/instrument check to be flown.

3.5.3.4.2. **Specific Mission Tasks.** In addition to evaluation requirements, flights should include steep turns, basic and tactical formation, AGSM, rejoin, nose-high recovery, advanced handling, aerobatics, TACAN holding and penetration, and a closed pattern.

3.5.3.5. **TR-5** (Aircraft: 2 F-16Cs or 1 F-16D; Time: 1.5; Crew: IP, Upgrader, or Upgrader/IP)

3.5.3.5.1. **Mission Objectives.** Introduce night flying, ground operations, air refueling, intercepts, formation, instrument approaches, and landings.

3.5.3.5.2. **Specific Mission Tasks.** Takeoff, trail departure, join-up, basic formation for each aircraft, NORDO formation signals and procedures, NAAR, and intercepts. SPLIT: Instrument approaches, landings.

***NOTE:** Intercepts are optional but desired, however, MQ/AI-1 is a prerequisite for night intercepts. TR-5 may be flown single-ship if in an F-16D. Night air refueling is desired but not required. Day air refueling is required first unless mission is flown in an F-16D.

Chapter 4

MISSION QUALIFICATION TRAINING (MQT) PROGRAM

4.1. General:

4.1.1. **Objective.** The objective of the 419 FW MQT Program is to train F-16 pilots for the attainment of mission ready status in air-to-surface and air-to-air roles as tasked by higher headquarters. Pilots upgrade through MQT as follows:

4.1.1.1. **Ground Training.** As prescribed in MCI 11-F16, V1 Chapter 3.

4.1.1.2. **Simulator and Flying Training.** As prescribed in MCI 11-F16, V1 Chapter 3.

4.1.1.3. **Additional Flying Training.** As determined by the squadron commander/operations officer to ensure accomplishment of MQT training.

*4.1.2. **Description.** The MQT (flying) Program consists of eighteen sorties plus a checkride, and is divided into air-to-surface and air-to-air phases. The air-to-air phase consists of nine sorties ranging in difficulty from 1v1 BFM to a 2v2 (D) ACT scenario. The air-to-surface phase includes eight sorties beginning with two-ship LASDT and SA, culminating in a four-ship surface attack tactics checkride (See table 4-1). The program is designed to confirm initial qualification training and provide limited exposure to more advanced missions as a prelude to continuation training. Each pilot must achieve performance standards prior to advancing to higher degrees of difficulty. Prior to beginning flight training in each phase, pilots receive general briefings which cover phase objectives, employment techniques/ procedures, common errors, rules of engagement, and safety considerations.

4.1.3. **Guidance.** The following guidance outlines the wing MQT syllabus for mission-ready (MR) certification at Level A. Execution of the training syllabus produces an F-16 pilot with a minimum capability for MR status.

*4.1.3.1. **Mission Statement.** To attain mission ready (MR) status, a pilot must demonstrate proficiency in the phase objectives/standards outlined in this chapter in addition to complying with requirements set forth in MCI 11-F16, V1 Chapter 3. Mission objectives define a level of accomplishment necessary to fulfill the DOC statement. Wingmen are required to meet all those mission objectives pertaining to tasks that are not historically the sole responsibility of the flight lead.

4.1.3.2. Screening Procedures Prior to MQT:

4.1.3.2.1. **Screening Committee.** Each pilot's formal course grade book, flying background, and past performance is evaluated on an individual basis by a unit screening committee which includes, as a minimum, squadron commander, operations officer, and training officer.

4.1.3.2.2. **Committee Responsibilities.** This committee of squadron managers is responsible for reviewing gained pilot's currencies such as AAR, day and night weapons delivery, landing, and formation landing prior to the first MQT flight.

4.1.3.2.3. **Weapons and Tactics/Electronic Combat.** Pilots normally demonstrate knowledge of penetration aids (ALE-40, ALQ-131, and ALR-69) during their initial weapons and tactics test and must accomplish this test prior to SAT-2.

4.1.3.2.4. **BFM Requirements.** Squadron supervisors ensure that BFM/AHC was completed in the formal course if SA is flown prior to BFM-1. Any IQT pilot not completing a formal course accomplish BFM/AHC training prior to SA-1.

*4.1.3.2.5. **LAO/Combat Edge Requirements.** The first mission for pilots not familiar with the Hill AFB local flying area will be a local area orientation flight (LAO). The LAO should include familiarization with local procedures, local divert bases (SLC, Michael, Wendover), and the range complex. This ride and the local area briefing replace the OFT MQT-1 simulator outlined in MCI 11-F16V1 Chapter 3 due to the absence of an OFT. (May be combined with another sortie.) Combat Edge Academics, life support fitting, don-doffing procedures and preflight test procedures will be accomplished prior to the LAO. The LAO profile will include low to medium G maneuvers to check the continuity and function of the CE system. Once low G system integrity is verified then high G maneuvers may be performed. Previous CE training may be counted toward the academics requirement but the flying portion of the CE checkout will be performed.

4.1.3.2.6. **Alternate Missions.** Alternate missions or missions for student recurrency/proficiency are limited to repeat syllabus missions containing previously performed maneuvers and instruments.

*4.1.3.2.7. **Low-Altitude Requirements.** MQT pilots must complete the objectives contained in this regulation for low-altitude maneuvering and limited communications familiarization on the first MQT sortie containing a low-level profile (normally LASDT-1). This training begins above 500 feet AGL and throughout MQT is limited to 500 feet AGL.

4.1.3.2.8. **Tailored Syllabus.** After considering all factors pertaining to a pilot's ability, the unit's screening committee tailors an individual's syllabus by deleting/adding events/sorties, and changing configuration requirements to MQT syllabus missions.

4.1.3.2.9. **Supervision.** A squadron supervisor or instructor pilot is required on all MQT sorties.

4.1.3.2.10. **Deficiencies.** If a squadron IP identifies problem areas with a particular MQT pilot or squadron managers recognize deficiencies through training folder reviews, IP continuity should be established and maintained until proper progression is achieved.

4.1.3.2.11. **Minimum Altitude.** Minimum altitude for all ACBT is 5,000 feet AGL.

4.1.3.2.12. **Timing:** If more than 14 days elapse between sorties, an additional review sortie will be flown before continuing in the program. The MQT program will be accomplished within 120 days from the start of training or waiver procedures listed in MCI 11-F16, V1 Chapter 3 must be followed. Verification must be accomplished within 120 days of being certified MR.

4.1.3.3. **Ground Training:**

*4.1.3.3.1. **Academic Training.** Conduct academic training using all available reference material. Such as aircraft specific and generic tech orders; fighter weapons school texts/handouts; MCM 3-1V5, and MCH 11-F16, V5, and locally developed blocks of instruction. The academic program is tailored to individual requirements based on experience, background, and flight continuity. The local area portion of IRC must be accomplished.

4.1.3.3.2. **SEPT Training.** MTT-103, Tactical Emergency Procedures Evaluation, is required for a pilot to become MR. This is in addition to MTT-102, Instrument Emergency Procedures Evaluation, administered in the IQT program. If the pilot did not go through local IQT, the individual must have a current instrument rating to be MR.

4.1.3.3.3. **MTT-103** (1:1 Ratio, 1.5 Hours) Tactical Emergency Procedures Evaluation. Administered by stan/eval as a requisite to the mission check. See profile in chapter 7.

4.1.3.4. **Electronic Warfare Training:**

*4.1.3.4.1. **Syllabus.** The MQT syllabus, as written, fulfills the requirements of MCI 11-F16, V1 Chapter 3

4.1.3.4.2. **Sorties.** The specific missions which fulfill electronic warfare training are designated in the MQT syllabus as MQ/ACT-1, MQ/ACT-2, MQ/SAT-1, and SAT-2. However any air-to-air or air-to-ground sortie with an ECM pod configuration may introduce EW/ECM techniques.

*4.1.3.5. **Low Altitude Training.** Prior to MR Certification, upgrade pilots must accomplish LASDT CAT-I training (500') checkout.

*4.1.3.6. **Weapons Qualification.** Prior to MR Certification, upgrade pilots must qualify in all weapons deliveries/employment events required "QUAL" by GCC tasking.

Table 4.1. Mission Qualification Training Sorties.

Table 4.1. MISSION QUALIFICATION TRAINING SORTIES		
MTT-101	MTT	NORMAL AND EMERGENCY OPERATIONS
MTT-103	MTT	TACTICAL EMERGENCY PROCEDURES EVALUATION
MQ/LAO/CE	2 F-16s	TR-3 PROFILE-LOCAL AREA ORIENTATION/COMBAT EDGE

MQ/BFM-1	2 F-16s	OFFENSIVE BASIC FIGHTER MANEUVERS (BFM)
MQ/BFM-2	2 F-16s	DEFENSIVE BFM
MQ/BFM-2	2 F-16s	HIGH ASPECT BFM
MTT-104	MTT	1 V X INTERCEPTS
MQ/ACM-1	¾ F-16s	OFFENSIVE HIGH ASPECT AIR COMBAT MANEUVERS
MQ/ACM-2	¾ F-16s	DEFFENSIVE ACM
MTT-105	MTT	1 V X AMRAAM INTERCEPTS
MQ/AI-1	4 F-16s	2 V 2 INTERCEPTS
MQ/ACT-1	4 F-16s	SWEEP V SWEEP AIR COMBAT TACTICS (ACT)
MQ/ACT-2	4 F-16s	CAP V SWEEP ACT
MTT-106	2/4 F-16s	AIR-GROUND AVIONICS FAMILIARIZATION
LASDT-1	2/4 F-16s	500' A/G LOW ALTITUDE CHECKOUT
LASDT-3	2/4 F-16s	500' A/G LOW ALTITUDE CHECKOUT
LASDT-3	2/4 F-16S	500' A/A LOW ALTITUDE CHECKOUT
MQ/SA-1	2/4 F-16s	SURFACE ATTACK/SA CONVERSION
MQ/SA-2	2/4 F-16s	SURFACE ATTACKS/SA RADAR
*MQ/NSA-1	2 F-16s	NIGHT WEAPONS
MQ/SAT-1	2/4 F-16s	SURFACE ATTACK/-LOW/MEDUIM THREAT
MQ/SAT-2	2/4 F-16s	SURFACE ATTACK/HIGH THREAT
MQ/SAT-3	2/4 F-16s	SURFACE ATTACK TACTICS/LOW ALTITUDE OPPOSED
MQ/SAT-4	2/4 F-16s	SURFACE ATTACK TACTICS/CHECKERED FLAG
MQ/TAC CK	2/4 F-16s	SURFACE ATTACK TACTICS/QUALIFICATION CHECK

4.1.3.7. Evaluation/Certification.

*4.1.3.7.1. **Profile.** The initial MR standardization and evaluation profile evaluates tasks required by the unit DOC statement and be given as prescribed in AFI 11-408.

4.1.3.7.2. **Certification.** Prior to certifying a pilot MR, the squadron commander/operations officer ensures that currencies and requirements listed in MCI 11-F16, V1 Chapter 2, are completed.

4.2. 419 FW Air-to-Air MQT Syllabus:

4.2.1. BFM/ACM:

4.2.1.1. Phase objectives:

4.2.1.1.1. **Situation Awareness.** Demonstrate ability to recognize when offensive, neutral, or defensive against single or multiple bandits. Demonstrate ability to use aircraft system/weapons to neutralize or achieve kills against single or multiple bandits.

4.2.1.1.2. **Performance as Element Member.** Be able to perform as an active member of an element while intercepting, engaging, and separating from a maneuvering bandit(s).

4.2.1.2. Phase Tasks/Standards (general):

4.2.1.2.1. **Offensive.** In offensive fighter maneuvers kill the enemy using correct weapons switchology and parameters to control the enemy by maintaining a positional/energy advantage. Recognize entry opportunities when acting as the free fighter under FREE/ENGAGED contract.

4.2.1.2.2. **Defensive.** In defensive maneuvering, deny the enemy valid shots. Attempt to neutralize with the bandit, attack, and either separate or go offensive. As a minimum, deny gun tracks or unobserved/unreacted to AAM shots. Maintain or regain the "tallyho" at all times.

4.2.1.2.3. **High-Aspect.** Recognize bandits plane of motion and BFM/ACM entry windows. Demonstrate ability to gain and maintain the offensive or separate before becoming defensive. Understand FREE/ ENGAGED fighter contract and the need to make bandits predictable through efficient BFM/ACM.

4.2.1.2.4. **BVR/NO SIGHT.** Be able to utilize on board radar, visual, GCI, and/or wingman to reacquire and engage bandit(s) if visual/tally is lost during heavy BFM/ACM maneuvering.

4.2.1.2.5. **Perch Parameters.** 9,000 feet/6,000 feet: 18,000-20,000 MSL; 400-450 Knots; 30 degrees angle off. 3,000 feet: same as above, except 300-350 Knots maximum.

4.2.1.2.6. **Ordnance.** Utilize available ordnance including AIM 120, AIM 9M, and gun depending on sortie objective and desired DLO's. Minimum MQT clearance bubble is 500' feet.

4.2.1.2.7. **Element Integrity.** Pilot demonstrates the ability to maintain element mutual support/integrity in support of desired tactics/objectives during ACM.

4.2.1.2.8. **Minimum Altitude.** Minimum altitude for all MQT air-to-air training is 5000' feet AGL, not including LOWAT 500' feet training.

4.2.1.3. **Desired Learning Objectives (DLOs).** Use specific DLOs for each engagement for the particular role established to enhance the briefing, debriefing, and overall learning curve.

4.2.1.4. **Mission Scenarios:**

4.2.1.4.1. **MTT-103**, see profile in chapter 7.

***Note:** The Combat Edge familiarization sortie must be flown prior to BFM.

4.2.1.4.2. **MQ/BFM-1** (lvl BFM) (Aircraft: 2 x F-16; crew: IP, upgrader; configuration: clean/CNTL tank/ ECM pod, AIM 9M, AVTR, CTVS):

4.2.1.4.2.1. **Mission Objectives.** Recognize bandits turn circle and energy state. Achieve valid AIM 120/AIM 9M/Gun shots. Kill the bandit or control the bandit by maintaining the offensive.

4.2.1.4.2.2. **Specific Mission Tasks.** Formation takeoff; weapons system check, AGSM, gun exercises, fence check, WVR 9,000 feet/6,000 feet/3,000 feet perch setups for offensive BFM, missile/gun exercises, formation approach, overhead/closed pattern; full-stop landing.

4.2.1.4.3. **MQ/BFM-2** (lvl BFM) (Aircraft: 2 x F-16; crew: IP, upgrader; configuration: clean/CNTL tank/ ECM pod, AIM 9M, AVTR, CTVS):

4.2.1.4.3.1. **Mission Objective.** Maintain tally on the bandit while executing defensive maneuvers. Deny the bandit valid weapons parameters/valid gun kill. Neutralize, go offensive or separate from the bandit. Brief and fly ASLAR approach.

4.2.1.4.3.2. **Specific Mission Tasks.** Formation takeoff, weapons system check, AGSM, gun exercise, ranging exercise, fence check, and within visual range 9,000 feet/6,000 feet/3,000 feet defensive BFM setups against all aspect missile/gun attacks. ASLAR approach, overhead/closed pattern, and full-stop landing.

4.2.1.4.4. **MQ/BFM-3** (lvl BFM) (Aircraft: 2 x F-16; crew: IP, upgrader; configuration: clean/CNTL tank/ ECM pod, AIM 9M, AVTR, CTVS)

4.2.1.4.4.1. **Mission Objectives.** Recognize bandits plane of motion and energy state. Maneuver to achieve the offensive for valid weapons employment. Maintain the offensive, kill or separate before losing the advantage against an all aspect adversary.

4.2.1.4.4.2. **Specific Mission Tasks.** Takeoff, weapons system check, AGSM, tactical formation, fence check, within visual range high aspect setups to practice BFM with all aspect ordnance, combat separations, recovery, SFO (if available), and full-stop landing.

NOTE: **MTT-104** should be accomplished before ACM-1. See profile in chapter 7.

4.2.1.4.5. **MQ/ACM-1** (2v1/2v(1+1)) (Aircraft: 3/4 x F-16; crew: IP, upgrader, MP. Configuration: clean/CNTL tank/ECM pod, AIM 9M, AVTR, CTVS):

4.2.1.4.5.1. **Mission Objectives.** Maintain mutual support. Recognize engaged/supporting roles while maneuvering for valid weapons employment. Demonstrate effective communication while maintaining BFM standards.

4.2.1.4.5.2. **Specific Mission Tasks.** Take-off, weapons system check, fence check, tactical formation, AGSM, butterfly sets, tactical intercept(s) to an offensive advantage, visual perch setups for offensive engagements, combat separations, and RTB via tactical formation with defensive ranging. The IP controls the bandit by tasking the pilot for each engagement. Formation landing (if required).

4.2.1.4.6. **MQ/ACM-2** (2v1/2v 1+1 ACM) (Aircraft: 3/4 x F-16; time: 1.1; crew: IP, upgrader, MP; configuration: clean/ CNTL tank/ECM pod, AIM 9M, AVTR, CTVS):

4.2.1.4.6.1 **Mission Objectives.** Maintain mutual support. Effectively maneuver to negate the threat prior to weapons employment, go offensive on separate. Demonstrate effective communication while fulfilling engaged/support fighter roles.

4.2.1.4.6.2. **Specific Mission Tasks.** Take-off, weapons system check, fence check, tactical formation, AGSM, within visual range and beyond visual range counteroffensive setups, find the bandit, negate bandit's attack; and go offensive or separate as required. The IP will control the bandit's maneuvering by specific tasking for each engagement. Formation landing (if required).

4.2.2. Intercept/Air Combat Tactics:

4.2.2.1. Phase Objectives:

4.2.2.1.1. **Radar Utilization.** Be able to correctly utilize radar switchology and search techniques to detect targets at various altitudes, intercept geometry's, and in various formations in both day/VMC and night/IMC conditions (simulated).

4.2.2.1.1.1. **Element Tactical Maneuvering.** Be able to successfully execute briefed tactics incorporating element mutual support, formation maneuvering, weapons employment, BVR/VID criteria, and end game ACM/BFM to destroy the enemy or disrupt his tactical advance while minimizing friendly losses.

4.2.2.1.2. **End Game Requirements.** Against maneuvering and nonreacting bandits, achieve valid AIM 120/AIM 9M launch/ID parameters prior to bandits reaching "protected airspace/target," or threatening weapons employment parameters against friendly forces.

4.2.2.2. Phase Tasks/Standards (General):

4.2.2.2.1. **IMC/Night Conditions.** In simulated or actual night/IMC conditions, the pilot is able to convert to an ID/weapons employment AIM 120/AIM 9M position against a limited/non-maneuvering target.

4.2.2.2.2. **Switchology.** Pilot is able to manage switchology and select appropriate weapons with timely recognition of launch parameters during all altitude conversions.

4.2.2.2.3. **Situation Awareness.** Pilots must demonstrate ability to maintain awareness and execute sound tactics during intercept, engagement, and separation against multiple bandits.

4.2.2.3. **Mission Scenarios:**

NOTE: MTT-105, and MQ/AI-1 & 2 should be completed prior to ACT-1.

4.2.2.3.1. **MQ/AI-1** (2v2 Intercepts): (Aircraft: 4 x 16; time: 1.4; crew: IP, upgrader, P, P; configuration: clean/centerline; GCI: required; AIM 9M, AIM-120, AVTR, CTVR).

NOTE: Fly before ACT-1

4.2.2.3.1.1. **Mission Objectives.** Demonstrate proficiency in detecting, sorting and targeting of multiple bandits. Maintain element mutual support while achieving valid AIM 120/AIM 9M weapons parameters. Demonstrate a sound knowledge of AIM 120 employment and communication.

4.2.2.3.1.2. **Specific Mission Tasks.** Practice scramble procedures for cocking, starting, taxi and takeoff; radar trail departure; weapons system check, AGSM, cap vs sweep (35-40NM) intercept sets. Maintain good mutual support with flight lead through briefed communication and sorting/targeting plan. Detect, sort, prioritize, and target bandits versus various formations and levels of threat maneuvering. IP controls level of bandit maneuvers to meet objectives: AIM 120/AIM 9M employment to achieve a kill; instrument recovery; formation approach; and formation landing.

4.2.2.3.2. **MQ/(D)ACT-1** (2v2): (Aircraft: 4 x 16; time: 1.1; crew: IP, upgrader, IP/FL, MP; configuration: ECM pod, chaff/flares, AIM 9M, [ACT/DACT]; AVTR, CTVS): GCI desired.

4.2.2.3.2.1. **Mission Objectives.** Maintain element mutual support in sweep vs sweep scenario. Demonstrate effective communication/radar and systems employment. Achieve valid weapons parameters for briefed ordnance. Detect, engage, kill the bandits or separate before becoming defensive. Introduce ECM pod usage and radar ECM features as an element.

4.2.2.3.2.2. **Specific Mission Tasks.** Take-off, weapons system check, fence check, AGSM, beyond visual range setups to engagements using sweep vs sweep scenarios, AIM 120/AIM 9M/gun ordnance will be used; Setups to include separate frequencies and full GCI; The IP controls the level of bandit maneuvering by engagement, recovery; full-stop landing.

4.2.2.4. **MQ/(D) ACT-2** (2v2) Aircraft: 4 x 16; Time: 1.1; crew: IP, Upgrade, IP/FL, P; configuration: ECM pod, chaff/flares, AIM-9L/M, [ACT/DACT]; GCI desired; AVTR, CTVS):

4.2.2.4.1. **Mission Objectives.** Maintain element mutual support in cap vs. sweep scenario. Demonstrate effective communications, radar, and systems employment. Achieve valid weapons parameters for briefed ordnance. Detect, sort, engage factor bandits. Control or kill factor bandits using MCM 3-1 fighter tactics. ECM pod usage by both F-16s and adversary is encouraged.

4.2.2.4.2. **Specific Mission Tasks.** Take-off, weapons system check, AGSM, beyond visual range engagements (35-40NM) using cap vs. sweep scenarios, cap two-ship has full GCI with AIM 120/AIM 9M/BVR loadout. Bandits have limited GCI, all aspect ordnance, setups will include short and medium range commits by bandits, recovery, and full-stop landing.

4.3. 419 FW Air-to-Ground MQT Syllabus:

4.3.1. Surface Attack (SA):

4.3.1.1. Phase Objectives:

*4.3.1.1.1. **Scenarios.** Surface attack scenarios should be flown in order. Surface attack tactics will follow the programmed flow with the exception of NSA-1, Night Weapons which can be flown anytime after SA-1 but before the MR checkride. Mission profiles can be adjusted for student learning/progression. However, planned mission objectives should be completed when possible.

*4.3.1.1.2. **Low-Altitude Training.** LASDT-1/2 500 feet training, must be accomplished prior to SA-1. Upgrade pilots can fly to 500 feet during the SA/SAT phase only when LASDT-1 and LASDT-2 are complete. The 500 feet LASDT-3 sortie must be completed prior to flying any MQT sortie where barons, adversaries, or low altitude intercept potential exists. LASDT-1, 2 and 3 must be completed prior to the MR checkride. Upgrade pilots are qualified CAT 1 (500 feet) AGL after a completed MR check. LOWAT baron sorties must be scheduled or approved by squadron commander, or operations officer. All MQT low altitude 500 feet AGL training procedures are prescribed by section 4.4. of this chapter.

4.3.1.1.3. **Timing.** Demonstrate proficiency/knowledge in time TOT/TOS management during tactical low levels to deliver ordnance at the planned TOT, +1 minute.

*4.3.1.1.4. **Event Qualification.** Practice and qualify in all tasked weapon delivery events to include all current GCC "QUAL" events.

4.3.1.1.5. **Bombing Modes.** Demonstrate an effective utilization of the different bombing modes to include: CCIP, DTOS, VRP/VIP, CCRP.

4.3.1.1.6. **Tactical Deliveries.** Achieve desired weapons delivery parameters in a tactical environment. Simulated ordnance will include but is not limited to, MK-82, -84, BSU-49, --50, CBU, and Rockeye.

4.3.1.1.7. **Threat Reactions.** Demonstrate ability to maneuver correctly when a defensive reaction is required. Schedulers should coordinate/schedule Barons/Op air for MQ SAT 3, 4 and MQT checkride.

4.3.1.2. **Range.** Controlled range (Eagle--primary). Required for SA-1/2.

4.3.1.3. **Phase Tasks/Standards (general):**

*4.3.1.3.1. **Weapons Qualification.** Upgrading pilots will achieve qualifying bombs in all required GCC "QUAL" events. Pilots must be initially qualified in event before they can drop in that event without an IP. Pilots only need to qualify in required events to be MR, but the squadrons policy is to qualify pilots in all events prior to MR check. Pilots not qualified in a required event will repeat the event with an IP until qualified prior to being declared MR.

4.3.1.4. **Mission Scenarios:**

*4.3.1.4.1. **LASDT-1/2** (See profile, section 4.4.)

***NOTE:** LASDT-1 and LASDT-2 must be complete prior to starting the SA phase.

4.3.1.4.2. **MQ/SA-1,** (Aircraft: 2/4 x 16; time 1.5; crew: IP, upgrader, IP, upgrader; pilot: configuration: exterior tank[s], six x BDU-33, 20MM, AVTR, CVTS):

4.3.1.4.2.1. **Mission Objectives.** Demonstrate knowledge/capability to employ conventional ordnance from visual bombing pattern. Demonstrate basic knowledge of F-16 visual bombing and fix taking systems. Demonstrate a basic knowledge of conventional range patterns rules and restrictions MQT pilot should qualify in all events include strafe. Student brief MK-20D (Rockeye with FMU 339 fuses).

*4.3.1.4.2.2. **Specific Mission Tasks.** Take-off; weapons system check, AGSM, low-altitude awareness training to include sustained level turns, acceleration/deceleration exercise, climbs/descents and ridge crossings; LATN; overfly/HUD updates, ACALS, range entry; and conventional deliveries to include: HARB, HADB, LAHD, LALD, DTOS and LAS from the box/ curvilinear pattern, RTB, overhead pattern, and landing.

4.3.1.4.3. **MQ/SA-2** (Aircraft: 4 x 16; time: 1.5; crew: IP, upgrader, IP, upgrader; Pilot: configuration: exterior tank[s], six x BDU-33, 20MM, AVTR, CVTS):

4.3.1.4.3.1. **Mission Objectives.** Demonstrate knowledge/capability to employ conventional ordnance utilizing blind/radar delivery methods. Demonstrate basic knowledge of F-16 radar weapons delivery and fixtaking modes. Demonstrate a basic knowledge of conventional range

radar pattern rules and restrictions. Pilots should qualify in all range events. Student briefs MK-82s, (BSU-49 with 904/905 fuses).

4.3.1.4.3.2. **Specific Mission Tasks.** Take-off; weapons system check; AGSM; radar low level; radar fixtaking, ACALS and updates; range entry and radar deliveries events with emphasis on OAP/VIP/VRP aiming and FCR expansion modes; recovery and landing.

*4.3.1.4.4. **MQ/NSA -1 Night Weapons Delivery (2 F-16C/D)**

*4.3.1.4.4.1. **Mission Objectives.** Introduce high/MEDUIM altitude bomb deliveries on a class A range in a night environment. Practice Maverick missile employment on controlled range or on real world targets.

*4.3.1.4.4.2. **Specific Mission Tasks.** Night formation/radar trail departure; NAAR; night flying hazards; missile boresight, radar and/or conventional bombing deliveries from medium/high altitude; SMS and weapons delivery mode management; bomb/missile delivery parameters and error analysis; detect and track real world targets using GMT/GMTT; instrument approaches.

*4.3.1.4.4.3. **Special Briefing Items.** Night ground ops, NAAR, night flying hazards, NORDO, electrical malfunctions; illumination; AGM-65/LAU-117 preflight; class A range layout; ordnance delivery parameters to include time on final, release airspeed, and release altitude awareness; escape maneuvers; Maverick missile employment and minimum range using visual and radar modes.

4.3.2. **Surface Attack Tactics (SAT):**

4.3.2.1. **Phase Objectives:**

*4.3.2.1.1. **Mission Planning.** Demonstrate proficiency in tactical mission planning and weapons delivery computer systems.

4.3.2.1.2. **Full-Scale Weapons Delivery (FSWD).** Accomplish a heavyweight (FSWD) event if available.

4.3.2.1.3. **Interdiction/CAS.** Demonstrate a thorough understanding of interdiction and CAS tactics, techniques and communications.

4.3.2.1.4. **First-Look Effectiveness.** Demonstrate a capability to achieve desired weapons effects on a "first look" target using simulated ordnance on dry SAT targets.

4.3.2.1.5. **Adversaries/Threat Reactions.** Demonstrate ability to detect and respond to both surface-to-air and all aspect air-to-air threats. Baron air threats required on at least one sortie prior to MR checkride.

***NOTE:** LASDT-3 must be complete prior to introducing air-threats into SAT scenarios.

4.3.2.2. **Range.** UTTR will be primary range, but any scheduled tactics range may be substituted.

4.3.2.3. **Phase Tasks/Standards (general):**

4.3.2.3.1. **Event Qualification.** Same as required by surface attack phase.

4.3.2.3.2. **Weapons qualification.** Must be maintained/achieved prior to MR check. Additionally the pilot must react correctly to threats and perform as a tactically sound wingman to continue sortie progression to MR check.

4.3.2.4. **Mission Scenarios:**

*4.3.2.4.1. **LASDT-1/2/3** (See profiles, section 4.4.)

NOTE: The weapons and tactics test must be completed prior to SAT-1. (Bandits required at least once during SAT 2-4.)

4.3.2.4.2. **MQ SAT-1** (Aircraft 2/4 x F-16; time: 1.3; crew: IP, upgrader, FL/IP, upgrader, pilot. Configuration: ECM pod, external tank(s) 6 x BDU 33/6 x BDU 50/6 x MK 82/2 x insert MK 84/2 x MK 84 20MM, AIM 9M, AVTR, CTVS):

4.3.2.4.2.1. **Mission Objectives.** Demonstrate ability to maintain element mutual support while employing medium/high altitude tactics/deliveries. Demonstrate a basic knowledge or medium/high altitude weapons employment and switchology. Pilot should achieve "first look" hits on preplanned targets. OP air is not authorized. Introduce ECM pod and radar EW techniques. Student brief MK-84s (BSU-50 with FMU 139 fuze).

*4.3.2.4.2.2. **Specific Mission Tasks.** MK82/84 with MK 904/905 fuzing preflight, takeoff, weapons checks, AGSM, fluid 4 plus spread four formations, medium/high altitude ingress, medium/high altitude target acquisition, HARB, and HADB attacks, tactical egress.

4.3.2.4.3. **MQ SAT-2** (Aircraft 2/4 x F-16; time: 1.3; crew: IP, upgrader, FL/IP, upgrader, pilot. Configuration: ECM pod exterior 2 tank(s) 6 x BDU 33/6 x BDU 50/6 x MK 82/2 x inert MK 84/2 x MK 84 20MM, AIM 9M, AVTR, CTVS):

4.3.2.4.3.1. **Mission Objectives.** Demonstrate basic low altitude mission planning ability. Demonstrate ability to maintain element mutual support in low altitude high threat environment. Demonstrate a basic knowledge of low altitude weapons employment and switchology. Pilot should achieve "first look" hits on preplanned targets. Integrate A-G ECM pod and EW techniques. (Student briefs CBU-87 B with FZU-39 fuses)

4.3.2.4.3.2. **Specific Mission Tasks.** Take-off, weapons checks, AGSM, LATN, LATF, air to surface threat reactions, tactical low altitude high threat ingress and attack, tactical egress. Complete low altitude bombs if required. RTB tactical initial.

4.3.2.4.4. **MQ SAT-3** (Aircraft 2/4 x 16, time: 1.3; crew: IP, upgrader, pilot. Configuration: exterior tank(s), 6 x BDU 33/6 x MK 82/2 x MK 84, 20MM, AIM 9, AVTR, CTVS):

4.3.2.4.4.1. **Mission Objectives.** Demonstrate ability to employ in a tactical 4 ship. Demonstrate a basic tactical knowledge in medium/high altitude employment. Demonstrate ability to maintain flight mutual support while executing air/surface threat reactions and AIM 120 VID employment. Pilot should achieve "first look" attack effectiveness. Baron/Op air desired, but not required. (Student briefs CBU-52 with FMU 110 fuses)

***NOTE:** LASDT-3 must be complete prior to experiencing opposed SAT (Baron).

4.3.2.4.4.2. **Specific Mission Tasks.** Take-off, weapons systems checks, AGSM, LATN, LATF, medium/high altitude weapons employment. Tactical air to surface/air to air threat reactions. AIM-120 VID weapons employment, tactical egress. RTB landing.

4.3.2.4.5. **MQ SAT-4** (Aircraft: 2/4 x F-16; time: 1.3; crew: IP, upgrader, pilot. Configuration: external tank(s), 6 x BDU 33/6 x MK 82/2 x MK 84, AIM 9M, AVTR, CTVS.) Checkered Flag Scenario (frag):

4.3.2.4.5.1. **Mission Objective.** Demonstrates a basic tactical knowledge in low altitude, high threat weapons employment. Demonstrate ability to maintain flight mutual support while executing low altitude tactics and AIM 120 VID employment. Pilot should achieve "first look" attack effectiveness. Baron/Op air desired.

4.3.2.4.5.2. **Specific Mission Tasks.** Take off, weapons system checks, AGSM, LATN, LATF, low altitude weapons employment. Tactical air to surface/air to air threat reactions. AIM 120 VID weapons employment. Tactical egress. RTB landing.

4.3.2.4.6. **MQ/MR check.** Checkered Flag scenario (frag) (Aircraft 2/4 x F-16; time: 1.3; crew: SEFE, upgrader, pilot or IP, upgrader, SEFE, pilot. Configuration: external tank(s), 6 x BDU 33/6 x MK 82/2 x MK 84, AIM 9M, AVTR, CTVS.

4.3.2.4.6.1. **Mission Objectives.** Demonstrates proficiency in tactical air to surface employment. Demonstrate ability to maintain flight integrity while executing AIM 120 VID employment, air to air, air to surface, threat reactions and air to surface weapons delivery. Pilot will achieve "first look" weapons effectiveness and qualify in all event flown. Baron op air desired.

4.3.2.4.6.2. **Specific Mission Tasks.** Formulate a viable tactical plan. Takeoff, weapons systems checks, AGSM, LATF, LATN, air to air/air to surface threat reactions. AIM 120

VID/BVR weapons employment. Tactical weapons delivery, tactical egress. RTB, landing. Upgrader should become involved in briefing portions of this mission to include weapons, threat capabilities, safe escape/frag avoidance, and basic switchology.

*NOTE: LASDT-3 (A/A, CAT 1) Must be accomplished prior to MR Certification.

***4.4. Low Altitude 500 feet Air-to-Surface (LASDT-1/2), and Air-to-Air (LASDT-3) Training Program:**

4.4.1. **General.** Tactical aircraft are required to employ offensively and defensively in the low altitude environment against continually improving threats, and in weather conditions that allow little latitude in maneuvering to higher altitudes.

4.4.1.1. **Safety.** The low altitude 500 feet program is designed to introduce and reinforce proper maneuvering, habit patterns, and techniques while training in the low altitude environment.

4.4.1.2. **Employment.** The training is designed to increase the tactical capability of each pilot both offensively and defensively at low altitude against ground and air threats.

4.4.1.3. **Awareness.** Understand low altitude flying is dangerous because of visual and perceptual illusions which are difficult for the untrained pilot to detect. Additionally, long periods of low level flying can lead to complacency and increase the risk of ground collision during periods of distraction or task saturation.

4.4.1.4. **Certification.** Upon completion of this program, wing pilots will be knowledgeable and proficient in 500 feet AGL offensive and defensive tactical formations; low altitude navigation and air-to-air intercept techniques; offensive and defensive threat acquisition, assessment, and responses; and be certified to fly low altitude down to 500 feet AGL as current regulations permit.

4.4.2. Instructions:

*4.4.2.1. **Governing Publications.** This regulation and MCI 11-F16, V1 Chapter 6 covers low altitude training to 500 feet AGL. Step down training below 500 feet AGL will be as prescribed by MCI 11-F16, V1 Chapter 3 and AFRESR Task Management Training phase manual for LASDT/LOWAT step down training.

4.4.2.2. **Pilot Qualifications.** Minimum qualification to enter 500 feet AGL low altitude training is completion of IQT. Pilots and IPs currently qualified at low altitude by previous unit programs may remain qualified under this program subject to the squadron commanders recommendations and the operations group commander approval. Waivered pilots will demonstrate proficiency at 1000' AGL prior to conducting flight maneuvers below 1000' feet AGL.

4.4.2.3. **Supervision.** Step-down 500' feet AGL training sorties are supervised by an IP, SEFE, or squadron supervisory FL who has been certified by the squadron commander.

4.4.2.4. **Progression.** Progression is based on both the pilot's individual assessment of performance and the IPs' recommendation. At no time will an IP/FL direct an increased tasking level if it's determined the pilot is not ready for the increase in training intensity.

4.4.2.5. **Grade Sheet.** The LASDT/LOWAT training grade sheets will be used for all initial 500' feet AGL training. Use the MQT sortie worksheet and the LASDT/LOWAT gradesheets to document training received, certification to fly 500' feet AGL, and/or certification to supervise 500' feet AGL sorties.

4.4.2.6. **Rules of Conduct.** Training rules will be prescribed by MCI 11-F16, V1 Chapter 6 and must be briefed prior to flight. Minimum airspeed is 300 KIAS for navigation and 350 KIAS for offensive or defensive maneuvering. Due to restrictions caused by aircraft mishaps, noise abatement, revised threat assessments, etc., flight leads must review the FCIF for current guidance prior to briefing a 500 feet low altitude mission.

4.4.2.7. **Recurrency.** If currency is lost, the pilot, under the supervision of a certified IP/FL requalify with vertical awareness training, hard turns, tactical formation, and offensive or defensive responses at 500' feet AGL.

*4.4.2.8. **Alternate Mission.** Do not fly LASDT-1, 2 or 3 low altitude 500' AGL upgrade as an alternate mission. The special briefing and ground training requirements require thorough preparation and discussion. The upgrade pilot must comprehend and master 500' feet AGL flying techniques prior to being declared mission ready. Therefore these sorties are critical to low altitude tactical effectiveness and given first priority in the briefing process.

4.4.3. **Training Objectives:**

4.4.3.1. **KIO conditions.** Recognize the conditions requiring a "knock-it-off" response.

4.4.3.2. **Threat Response.** Practice threat detection and assessment to determine an appropriate defensive response.

4.4.3.3. **Single-Ship Tasks.** Practice terrain masking/maneuvering techniques for level, rolling, and rough terrain. Practice navigation, accelerations, decelerations, and basic defensive responses to air and ground threats.

4.4.3.4. **Tactical Formation Tasks.** Practice line-abreast and wedge formation, offensive and defensive maneuvering, and navigation turns. Practice formation terrain masking techniques, visual search, radar search, and RWR detection of ground and air threats.

4.4.4. **Ground Training:** Low altitude aircraft handling and characteristics. Environmental and visual illusion factors. Low altitude navigation. Tactical formation flying. Threat detection and awareness. Radar capabilities. Line of sight techniques/problems. False targets/ECCM/false lock-on problems. Sorting/ sampling techniques. High-to-low/offset/co-altitude/snap-up intercepts. Conversion techniques. Altitude/airspeed/power considerations. Slow/medium/high speed targets. Integration of HUD/radar and heading vs aspect information for intercept/conversion. Weapons envelope/rules of thumb.

4.4.5. **Flight Training:**

4.4.5.1. Proficiency down to 500' AGL, CAT 1, is required and all pilots must be certified to 500' AGL to be declared MR. Specific flight training elements are listed under specific mission tasks for each LASDT training sorties. Sortie requirements dictate LASDT-1 and 2 must be completed before starting the SA phase. LASDT-3 must be completed prior to the MR checkride or any other low altitude intercept sortie.

4.4.5.2. **Training Missions:**

*4.4.5.2.1. **LASDT-1--500' A/G, Dual/Single-ship/chase** (minimum altitude: 500' AGL) (Aircraft: two x F-16C or F-16D; crew: IP/FL, MP or MP/FL; time: 1.2; configuration: exterior tank(s); ordnance: ATVR, CTVS).

*4.4.5.2.1.1. **Mission Objectives.** Introduce single-ship tasks designed to promote recognition and reinforcement of individual minimum altitude awareness between 1000' and 500' AGL; flight environment assessment; individuals limitations in dynamic task training; establish a viable cross-check of terrain, instruments, HUD, radar, and UFC; perform basic low-altitude maneuvers; combined maneuvers; practice knock-it-off procedures. Practice simulated minimum fuel recovery.

*4.4.5.2.1.2. **Specific Mission Tasks.** Take-off; weapons system check; fence check; AGSM; altitude awareness checks from 5,000' AGL to 500' AGL straight and level; flight environment assessment to include sun angle, shadows, known size comparisons, texture/terrain detail, and vertical obstruction awareness; practice a viable cross-check pattern with correct timing. Perform a combat descent with level off dynamic task timing exercises, a speed change exercise (AB, idle, speed-brakes), low-altitude abort techniques, and nose low recoveries. Perform single-ship basic low-altitude maneuvers to include wings level descent; turning descent (no lower than 500' AGL); straight and level control; wings level push/pull exercise; turns to include level, climbing, navigation type, hard level, hard climbing (slight), and defensive turn/extension exercise at varying altitudes above 500' AGL; ridge crossing exercises to include perpendicular pushover, oblique roll, and horizontal snakes/jinks; vertical awareness training during slices (minimum altitudes: 1,000' AGL); and single-ship navigation, attack maneuvering, ordnance delivery and recovery.

4.4.5.2.1.3. **Special Briefing Items.** Dynamic task timing and cross-check procedures and techniques, overtaking and how to recognize it; reactions to knock-it-off calls; recognition of when to climb versus staying at low altitude; low-altitude engine problems; and turning and looking hazards. All maneuvers need not be accomplished at 500' AGL.

*4.4.5.2.2 **LASDT-2** --500' A/G, Single-ship/chase (minimum altitude: 500' AGL) (Aircraft: two x F-16C or F-16D; crew: IP/FL, MP or MP/FL; time: 1.2; configuration: exterior tank(s); ordnance: ATVR, CTVS).

*4.4.5.2.1.1. **Mission Objectives.** Introduce single-ship tasks remaining from LASDT-1 and demonstrate proficiency in those already shown. Promote recognition and reinforcement of individual minimum altitude awareness down to a minimum altitude of 500'AGL; flight environment assessment; individuals limitations in dynamic task training; establish a viable cross-check of terrain, instruments, HUD, radar, and UFC; perform basic low-altitude maneuvers; combined maneuvers; practice knock-it-off procedures. Practice simulated minimum fuel recovery.

*4.4.5.2.1.2. **Specific Mission Tasks.** Same as LASDT-1.

*4.4.5.2.1.3. **Special Briefing Items.** Same as LASDT-1.

*4.4.5.3.2. **LASDT-3**--500' A/A, two ship/element maneuvering (minimum altitude: 500' AGL) (Aircraft: four x F-16C; time: 1.2; crew: IP/FL, MP; configuration: clean/tanks; ordnance: Msl, AVTR, CTVS):

*4.4.5.3.2.1. **Mission Objectives.** Practice formation tasks designed to promote recognition and reinforcement of individual minimum altitude awareness down to a minimum of 500'; flight environment assessment; pilot limitations in dynamic maneuvering; establish a viable cross-check of terrain, instruments, HUD, radar, UFC, and wingman; perform basic low altitude maneuvers; perform combined maneuvers; fly varying types of tactical formations with and without communication; and successfully complete low altitude intercepts and threat defensive maneuvering against low altitude threats.

*4.4.5.3.2.2. **Special Mission Tasks.** (Select a representative cross section of tasks to complement LAT-1 training) Take-off; weapons system check; fence check; AGSM; altitude awareness checks from 5,000' AGL to 500' AGL straight and level; flight environment assessment to include sun angle, shadows, size comparisons, terrain detail, and vertical obstruction awareness; establish a viable cross-check pattern; perform dynamic intercept exercises, low-altitude maneuvers to include tactical turns, straight and level control, element defensive turns to include hard level, hard climbing (slight), and turn/extend/turn/notching exercise at 500' AGL; include single side offset and visual bracket intercepts radar detection, sorting, targeting, intercept and weapons employment versus an all-aspect bandit; RWR and intercept geometry and visual acquisition of bandit during low altitude formations, defensive

maneuvering; to include line abreast, wedge, trail, splits, rejoins, turns, and visual lookout "no-joy" timing exercise; low-level navigation and multiple low-altitude tactical intercepts.

*4.4.5.3.2.3. **Special Briefing Items.** Brief in detail all maneuvers to be performed; dynamic task timing and cross-check procedures and techniques; emphasize short rests at higher altitude when tired/sloppy, over tasked; brief cues available to recognize over tasking; reaction to knock-it-off calls; recognition of need to climb versus staying at low altitude; low-altitude engine problems; turning and looking hazards; use of RWR, radar, HUD, UFC, AIM missiles and gun for low altitude offensive and defensive employment.

NOTE: Upon completion of LASDT-3 the squadron CC will certify the upgrade pilot as CAT-1 qualified.

Chapter 5

CONTINUATION TRAINING PROGRAM

***5.1. General.** This chapter contains those training programs to be flown on a regular basis to maintain mission-ready status. Scenarios are selected by the operations officer and published on the daily flying schedule. Missions specified as Checkered Flag sorties will emphasize bed down base environment, regional threats and targets, and area wartime procedures. Composite Force training is scheduled whenever assets are available. If a pilot regresses from MR status due to lack of GCC sorties, weapons delivery sorties are used to regain status. Squadron CC/DO approval is required prior to entering training to regain MR status.

5.2. Non-demanding Sorties and Squadron Restrictions:

5.2.1. Lapse of Currency. As prescribed in MCI 11-F16V1, no pilot shall participate in a demanding sortie after an extended period of nonflying, which is defined as 30 days. This corresponds with night landing currency. Squadron/wing supervisors are responsible for ensuring that a pilot with an expired nondemanding sortie/night landing currency will not fly a demanding sortie on their first flight back.

5.2.2. Nondemanding Sortie. A nondemanding sortie is instruments, AHC, conventional/curvilinear weapons delivery, intercepts and other low/medium threat events. Pop-ups, flight below 500' AGL and BFM is excluded.

5.2.3. Approved Alternate Missions. Air-to-air refueling, low-level navigation above the higher of 500' AGL or pilots minimum altitude (more than one aircraft required), BFM, high- or low- altitude intercepts.

5.2.4. Unauthorized flights. 1v2 DACT will not be scheduled. It may be flown in the event of fallout. This does not preclude DACM.

***5.2.5. Altitude Restrictions.** A minimum altitude for LOWAT prior to LASDT-2 completion is 1000' AGL. Minimum altitude for air-to-ground operations prior to formal low-altitude training is 500' AGL. Continuation training ACBT floor with unlimited training rules is 5,000' AGL.

5.3. Surface Attack:

5.3.1. Special Instructions:

5.3.1.1. Scenarios. The squadron operations officer, weapons and tactics officer, and flying training officer work in conjunction with the scheduling officer to establish and schedule scenarios for effective training. Mission profiles may be altered to fit individual training requirements (Table 5-1). Swing role operations are permitted if briefed.

5.3.1.2. **Planning.** Mission planning by all flight members, especially target area, route study, and target egress, is the key to force survival and first-pass target destruction. Fuze arm and safe escape should be briefed on all surface attack profiles based on actual or simulated combat ordnance.

5.3.1.3. **VTR Utilization.** The VTR program provides immediate feedback, reinforces lessons learned, and improves the accuracy of debriefings. It is every pilot's responsibility to use it on each mission.

5.3.1.4. **Bandit Assets.** Bandit aircraft are a necessity for realistic training and used consistent with their availability to improve visual lookout, threat awareness, and threat reactions.

5.3.1.5. **Element Integrity.** Since the two-ship and four-ship are generally considered to be the basic fighting element/flight, all surface attack missions are planned as two or four ships. Alternate missions may be flown with odd numbers provided it has been briefed. Single-ship surface attack may be flown on a controlled range provided the pilot is MR. Tactics range single-ship operations are permissible if flown with an IP in the F-16D model or with a FAC (ground or air).

5.3.1.6. **FSWD.** Full-scale weapons delivery may be accomplished on any of the CT mission profiles to appropriate ranges.

5.3.1.7. **Flight Lead Options.** At the flight lead's discretion, munitions listed under special briefing items for the mission profiles may be replaced with other simulated ordnance loads. This applies to any part of the scenario unless the scenario is in concert with an ATO.

*5.3.1.8. **Clearing Passes.** Clearing passes on Class B and C ranges are required as prescribed in AFI 11-214.

*5.3.1.9. **Aircraft Assets.** Use of "have quick"/KY-58 radio, mode IV, TOT clock, auto IFF, and safe passage procedures are highly encouraged in accordance with the scenario or if tasked by an ATO.

Table 5.1. Air-To-Surface.

Table 5.1. AIR-TO-SURFACE		
LASDT-3	2	LOW ALTITUDE TACTICAL MANEUVERING
SA-1	2/4	BASIC WEAPONS DELIVERY
*NSA-1	2	NIGHT WEAPONS
CAS-1	2/4	LOW THREAT CLOSE AIR SUPPORT (CF)

CAS-2	2/4	HIGH THREAT CLOSE AIR SUPPORT
JAAT-1	2/4	JOINT AIR ATTACK TEAM
SAT-1	2/4	STRATEGIC ATTACK (CF) – LOW/MEDIUM THREAT
SAT-2	2/4	AIR INTERDICTION – HIGH THREAT
SAT-3	2/4	OFFENSIVE COUNTER AIR-AFLD ATTACK (CF)
SAT-4	2/4	SUPPRESSION OF ENEMY DEFENSES
SAT-5	2/4	SUPPRESSION OF ENEMY DEFENSES (CF)
SAT-6	2/4	JOINT MARITIME OPERATIONS (AIR)
MAV-1	2/4	MEDIUM THREAT MAVERICK
MAV-2	2/2	HIGH THREAT MAVERICK (CF)
CFT-1	X/X	COMPOSITE FORCE TRAINING
LFE-1	6+	LARGE FORCE EMPLOYMENT (CF)
*KS-1	2/x	KILLER SCOUT
*NSAT-1	2	NIGHT STRATEGIC ATTACK

5.3.2. Scenarios:

*5.3.2.1. **LASDT-3** (2 x F-16s - Low-Altitude Step Down/Refresher Training): See profile, chapter 4, Section 4.4.

5.3.2.2. **SA-1** Basic Weapons Delivery (2/4 x F-16's).

5.3.2.2.1. **Mission Objectives.** Practice radar, box, curvilinear, or pop-up patterns on a Class A range.

5.3.2.2.2. **Specific Mission Tasks.** Radar and/or conventional weapons deliveries; SMS and weapons delivery mode management; weapons delivery parameters and error analysis AGSM. (*Note:* This mission may be combined with another mission profile to optimize training.)

5.3.2.2.3. **Specific Briefing Items.** Ordnance delivery parameters to include time on final, release airspeed and release altitude; climbing and turning safe escape maneuvers; Class A range procedures; Error analysis and corrections; System altitude updates.

*5.3.2.3. **NSA -1 Night Weapons Delivery (2 F-16C/D)**

*5.3.2.3.1. **Mission Objective.** Practice high/medium altitude bomb deliveries on a class A range in a night environment. Practice Maverick missile employment on controlled range or on real world targets.

*5.3.2.3.2. **Specific Mission Tasks.** Night formation/radar trail departure; NAAR; night flying hazards; missile boresight, radar and/or conventional bombing deliveries from medium/high altitude; SMS and weapons delivery mode management; bomb/missile delivery parameters and error analysis; detect and track real world targets using GMT/GMTT; instrument approaches.

*5.3.2.3.3. **Special Briefing Items.** Night ground ops, NAAR, night flying hazards, NORDO, electrical malfunctions; illumination; AGM-65/LAU-117 preflight; class A range layout; ordnance delivery parameters to include time on final release airspeed, and release altitude awareness, escape maneuvers; Maverick missile employment and minimum range using visual and radar modes.

5.3.2.4. **CAS-1.** Low Threat Close Air Support (2/4 x F-16's, Checkered Flag Scenario):

5.3.2.4.1. **Mission Objectives.** Practice air support operations in and near the ground battle area in a low threat environment. Practice wheel patterns and random attacks.

5.3.2.4.2. **Specific Mission Tasks.** Tactical formation; tactical holding; fighter check-in and 9-line briefs; use of UTM coordinates; low-threat weapons delivery patterns; threat reactions.

5.3.2.4.3. **Specific Briefing Items.** Mk-82 AIR preflight and SMS loading; Mk-904E2/3 and FMU-54/139 arming and function; formation responsibilities and mutual support; tactical holding; self defense systems; authentication procedures; stores limits for sic Mk-82AIR's; delivery parameters and safe escape; FAC 9-line brief; target acquisition techniques; safe passage, AGSM.

5.3.2.5. **CAS-2.** High Threat Close Air Support (2/4 x F-16's):

5.3.2.5.1. **Mission Objectives.** Practice air support operations in and near the ground battle area in a high threat environment.

5.3.2.5.2. **Special Mission Tasks.** Scramble launch; low-altitude tactical navigational; fighter-to-FAC brief; FAC-to-fighter brief; level/pop-up attacks in a high threat environment; threat reaction; in-flight report, AGSM.

5.3.2.5.3. **Special Briefing Items.** Mk-20/Mk-339 preflight and SMS settings; formation responsibilities; self-defense system set-up and use; authentication procedures, Mk-20 employment and delivery parameters target acquisition techniques; mutual support considerations; communications jamming considerations.

*5.3.2.6. **JAAT-1** Joint Air Attack Team (2/4 x F-16s):

*5.3.2.6.1. **Mission Objectives.** Practice coordination attacks with attack helicopter and artillery assets. Practice pre-mission coordination with off station participants.

*5.3.2.6.2. **Specific Mission Tasks.** Low-altitude tactical NAV; airborne coordination with air mission commander (AMC) and air/ground FAC; level/pop-up attacks in a high threat environment; threat reactions; egress.

*5.3.2.6.3. **Special Briefing Items.** CBU 87B preflight and systems settings formation responsibilities; self defense set up and use; JATT timing constraints and use of the TOT/DELTA TOT clock; CBU 87 employment; mutual support considerations, AGSM.

5.3.2.7. **SAT-1** Strategic Attack - Low/Medium Threat (2/4 x F-16's, Checkered Flag Scenario):

5.3.2.7.1. **Mission Objective.** Practice medium/high altitude navigation, formation, and threat reactions. Practice radar and visual search, target acquisition and attack tactics from medium/high altitude.

5.3.2.7.2. **Specific Mission Tasks.** Fluid four/spread four tactical formations; medium/high altitude SAM defense, target acquisition using onboard systems, high altitude weapons delivery, tactical egress, AGSM.

5.3.2.7.3. **Special Briefing Items.** Mk-82/84 preflight and MFD loading; Mk-904/905 arming and function; med/high altitude tactical formation/maneuvering; ALQ-131 settings; SAM wiggle and SAM breaks and energy management; high altitude target acquisition; high altitude attack parameters; post attack formation rejoin.

5.3.2.8. **SAT-2** Air Interdiction - High Threat (2/4 x F-16's):

5.3.2.8.1. **Mission Objectives.** Practice low-altitude navigation, formations, and threat reactions. Practice high threat attacks against resupply/support operations. Low altitude employment of CBU-87.

5.3.2.8.2. **Specific Mission Tasks.** Low-altitude ingress; SAM/AAA defensive tactics; A/A radar and IR missile defense, first look attacks on MOA targets; CBU-87 employment; TOT compliance, AGSM.

5.3.2.8.3. **Special Briefing Items.** CBU-87 with FZU-39 fuzing, preflight, and MFD settings; low-altitude self defense system utilization; VRPCR mechanism/ switches; low-altitude target acquisition and attack geometry; release parameters/weapons effects; tactical egress; wounded bird.

5.3.2.9. **SAT-3** Offensive Counter Air-Airfield attack (2/4 x F-16's, Checkered Flag Scenario):

5.3.2.9.1. **Mission Objectives.** Practice low-altitude tactics and threat reactions. Practice using integrated forces and split axis IP to target runs on an airfield complex. Effective employment of Mk-82/84 AIR munitions.

5.3.2.9.2. **Specific Mission Tasks.** Low-altitude ingress; FEBA crossing; radar and IR missile defense; target area threat avoidance/reactions; split axis attacks; safe passage, AGSM.

5.3.2.9.3. **Special Briefing Items.** High drag GP bombs with Mk-904 and FMU-54 fuzing, preflight, and SMS settings; radar missile defense; VRPCRP mechanization/switches; attack geometry utilizing split axis run-in's; frag deconfliction; weapons effects; safe passage procedures.

5.3.2.10. **SAT-4** Suppression of Enemy Defenses-Medium Threat (2/4 x F-16's):

5.3.2.9.10. **Mission Objectives.** Practice medium/high altitude navigation, formation, and threat reactions. Practice medium/high altitude target acquisition and weapons employment. Effective employment of SUU-30 munitions against SAM and AAA defenses.

5.3.2.10.2. **Specific Mission Tasks.** Medium/high altitude navigation; medium/high altitude formations; medium altitude threat reactions; medium altitude system utilization; target acquisition; high altitude attack geometry and weapons delivery; egress; medium altitude wounded bird, AGSM.

5.3.2.10.3. **Special Briefing Items.** CBU-52/58-71 munitions with FMU-110 fuzing, preflight, and SMS settings; spread four and fluid four formation responsibilities and maneuvering; SAM wiggle and GLIB II maneuvers; medium/high altitude energy loss; ground map radar at medium altitude; CBU delivery parameters and weapons effects; wounded bird support at medium altitude.

5.3.2.11. **SAT-5** Suppression of Enemy Defenses-High Threat (2/4 x F-16's, Checkered Flag Scenario):

5.3.2.11.1. **Mission Objectives.** Practice low-altitude navigation, formation, and threat reactions. Practice attack tactics against a high threat air defense system (SAM/AAA). Effective employment of CBU-87.

5.3.2.11.2. **Special Mission Tasks.** Low-altitude navigation, formations, and threat reactions; terrain masking; onboard ECM and self defense utilization; decoy/deception tactics; VRPCRP utilization; split axis attack geometry, CBU-87 weapons delivery; first look MOA target; safe passage, AGSM.

5.3.2.11.3. **Special Briefing Items.** CBU-87 and FZU-39 fuzing, preflight, and SMS settings; acquisition radar and target tracking radar counter-measures; high threat SEAD tactics; VRPCRP mechanization; weapons delivery parameters and effects; threat reactions during IP to target run.

5.3.2.12. **SAT-6** Joint Maritime Operations-Air (2/4 x F-16's):

5.3.2.12.1. **Mission Objectives.** Practice over water operations. Practice all altitude employment, decoy/ deception tactics, and split axis attacks against a surface combatant.

5.3.2.12.2. **Special Mission Tasks.** Open sea navigation; threat detection and avoidance; target detection utilizing onboard radar; attack tactics utilizing decoy/deception and split altitude/axis geometry, AGSM.

5.3.2.12.3. **Special Briefing Items.** Mk-82/84 GP bombs and Mk-139 fuzing, preflight, and SMS settings; open sea operations to include air-to-air and ground map radar, self defense systems, navigation, and EMCON; JMO command and control; JMO attack options and tactics; DMPI selection and delivery considerations against a surface combatant. Note: AGM-65 is an optional munitions for this mission.

5.3.2.13. **MAV-1** Medium Threat Maverick (2/4 x F-16's):

5.3.2.13.1. **Mission Objectives.** Day/night low threat Maverick employment. Practice Maverick systems checks, boresight, and switchology. Practice Maverick employment from medium and high altitude. Practice PRE SLAVE and VIS SLAVE modes. Utilize GMT and GMTT modes of radar to detect and target real world targets.

5.3.2.13.2. **Special Mission Tasks.** Ground missile checks; airborne missile boresight; medium/high altitude navigation; medium/high altitude Maverick employment against fixed sites, pop-up targets, and real world moving targets; low altitude, low threat tactical deliveries (Day Only), AGSM.

5.3.2.13.3. **Special Briefing Items.** AGM-65/LAU117 preflight and SMS loading; ground missile checks; missile boresight; VIS SLAVE and PRE SLAVE modes; switchology; lock-on and tracking techniques; low threat wheel, trail, and shooter/shooter attack geometry.

5.3.2.14. **MAV-2** High Threat Maverick (2/4 x F-16's, Checkered Flag Scenario):

5.3.2.14.1. **Mission Objectives.** Practice Maverick employment in a high threat environment. PRE SLAVE employment utilizing VRP and GMTT. Practice tactical pop up attacks and Shooter-Cover attacks.

5.3.2.14.2. **Special Mission Tasks.** Ground missile checks; airborne missile boresight; low-altitude navigation; low-altitude, high threat AGM-65 attacks; In flight report; safe passage, AGSM.

5.3.2.14.3. **Special Briefing Items.** AGM-65/LAU117 preflight; ground missile checks; missile boresight; low altitude tactical formations; threat reactions; split, echelon, and Shooter-Cover attacks, PRE SLAVE mechanization; APG-68 GMT and GMTT modes.

5.3.2.15. **CFT-1** Composite Force Training:

5.3.2.15.1. **Mission Objectives.** Practice operations in an integrated force of dissimilar aircraft employing in various roles to enhance mission effectiveness and survivability. Practice mission planning, coordination, and execution of a composite strike force.

5.3.2.15.2. **Special Mission Tasks.** Mission coordination and timing; force rejoin and holding; ingress/egress flow; threat detection and avoidance; communications, command, and control; attack tactics; egress; recovery, AGSM.

5.3.2.15.3. **Special Briefing Items.** Force integration; shot doctrine; communications and control; package threat reactions; attack geometry; frag deconfliction; minimum fuel recovery.

5.3.2.16. **LFE-1** Large Force Employment (6+ F-16's, Checkered Flag Scenario):

5.3.2.16.1. **Mission Objectives.** Practice planning and employing a large force (LFE) mission. Practice coordinating a package launch, rejoin, and recovery.

5.3.2.16.2. **Special Mission Tasks.** Mission coordination and flow; large force launch; force rejoin and holding; threat detection and avoidance; attack tactics; TOT compliance; egress; recovery, AGSM.

5.3.2.16.3. **Special Briefing Items.** Launch flow and rejoin, communications; flight deconfliction; threat reactions; target area tactics; frag deconfliction; egress; ASLAR recovery.

*5.3.2.17. **KS-1** Killer Scout Tactics (2/X x F16's, Checkered Flag Scenario):

*5.3.2.17.1. **Mission Objective.** Maintain proficiency as a Killer Scout Flight Lead or Wingman. KS mission planning, flight lead techniques, wingman mutual support, special equipment and avionics use.

*5.3.2.17.2. **Specific Mission Tasks.** Perform mission planning. Demonstrate proficiency in killbox patrol/cap techniques, mutual support, target acquisition, fighter briefings, target marking and defense suppression, BDA, AGSM.

*5.3.2.17.3. **Special Briefing Items.** Frag breakout; weapons mix - CBU-87 and BDU-49/50; KS-KS coordination briefing; formation techniques in high and medium altitude kill box patrol; threat parameters, avoidance, and suppression; binocular use and avionic marking; fighter briefing, multi-fighter control and target marking; BDA briefing, CSAR, wounded bird.

*5.3.2.18. **NSAT-1** Night Strategic Attack (2 F16C/D, CF scenario)

*5.3.2.18.1. **Mission Objective.** Practice night medium/high altitude navigation, formation, threat/reactions, target acquisition, and attack tactics; successfully employ bombs or maverick missiles.

*5.3.2.18.2 **Specific Mission Tasks.** Ingress using appropriate tactical formation; medium/high altitude SAM defense, target acquisition using onboard systems; bomb/missile delivery; tactical egress; instrument approaches.

*5.3.2.18.3 **Special Briefing Items.** Night ground ops, NAAR, night flying hazards, NORDO, electrical malfunctions; AGM-65/LAU-117 preflight; illumination; MK-82/84 preflight and MFD loading; MK-904/905 arming and function; medium/high altitude tactical formation/maneuvering; ALQ-131 settings; SAM wiggle and SAM breaks; high altitude target acquisition and attack parameters; escape maneuvers; post attack formation rejoin; Maverick missile employment using visual and radar modes.

5.4. Air-To-Air:

5.4.1. Special Instructions:

5.4.1.1. **Building Block Approach.** Air-to-air flying is a complex skill composed of many levels of proficiency. Generally, the pilot must be proficient in accomplishing tasks to a certain level of difficulty prior to advancing to higher degrees of difficulty. When deficiencies are recognized at a particular level of training, they must be corrected before more demanding/complex scenarios are flown.

5.4.1.1.1. **Flight Lead Requirements.** Flight leaders brief the scheduled scenario, specific roles for each flight member, and associated learning objectives for each engagement. They should control each engagement to maximize training while minimizing risk. The DLOs and ROE are the basis for termination of engagements. The DLOs form the basis for the flight debriefing. Changes to the schedule mission must obtain operations officer approval.

5.4.1.2. **Recording Systems.** The VTR recording program and HUS/ACMI are integral parts of air-to-air training. Flight leaders and supervisors ensure these recording processes are utilized efficiently. All G-awareness exercises will be filmed. Assessment of all missile and gun shots is accomplished to ensure valuable lessons learned are derived from the VTRs.

5.4.1.3. **Element Integrity.** The basis of current combat employment techniques revolve around the utilization of aircraft in the two-ship formation or multiples thereof. To attain this capability, the training received in air-to-air begins with valuable single-ship awareness training (AHC, BFM, and intercepts). Once proficiency has been demonstrated in these areas, accomplish progression into two-ship and multiples thereof. Schedule recurring training in air-to-air basics as required to ensure complex scenarios do not exceed one's capabilities.

5.4.1.4. **Alternate Missions.** If an abort/cancellation occurs in planned two-ship or multiples thereof scenarios, the mission will continue provided the alternate mission was briefed and correct supervisory requirements are met. The single may function as an element with a phantom wingman or may simply be a training aid for the element.

5.4.1.5. **Dissimilar Assets.** Use dissimilar aircraft on air-to-air sorties consistent with their availability. Dissimilar aircraft may be substituted for any F-16 as mentioned in the scenarios listed in this chapter.

5.4.1.6. **Similar Assets.** Similar ACT is restricted to a maximum of four aircraft while dedicated intercept sorties may be flown similar with up to eight aircraft.

5.4.2. Scenarios:

NOTE: The following scenarios also outlined in **table 5.2.** have objectives and special briefing items which can/should be modified by flight leaders to better enhance the desired learning outcomes of that particular scenario as it is applied to the pilots within his flight.

5.4.2.1. **AHC** Advanced Handling Characteristics (1/2 x F-16's):

5.4.2.1.1. **Mission Objectives.** Reinforce awareness of aircraft maneuvering capabilities, limitations, and engine performance. Practice gun employment and use of ACM radar.

5.4.2.1.2. **Specific Mission Tasks.** This mission may be accomplished as; a planned single-ship sortie, an alternate mission, a scheduled two-ship sortie, or in conjunction with a scheduled air-to-air mission. Configuration may be any air-to-air load without stores on stations 3, 4, 6, or 7. Minimum recovery altitude for all AHC maneuvers is 5000' AGL. All AHC/aerobatic maneuvers and gun exercises will be accomplished as prescribed by ACCM 3-3 Vol 5 (Chap 9). As a minimum, accomplish the five maneuvers in the Horn Awareness and Recovery Training Series (HARTS), perform AGSM prior to performing maneuvers.

5.4.2.1.3. **Special Briefing Items.** HARTS maneuvers to include entry conditions, maneuver parameters, and recovery; aircraft departure susceptibility; loss of control CAPS; high AOA, nose high recoveries; EEGS envelope, symbology, and employment.

5.4.2.2. **AI-1** Tactical Intercepts/AMRAAM (X v X, low/medium/high altitude intercepts, day)

5.4.2.2.1. **Mission Objectives.** Practice radar sorting and targeting. Develop sound radar scope interpretation and cross check. Practice intercept geometry. Practice BVR AMRAAM employment and launch and leave/ react L/L and L/R tactics. Develop communications discipline and exercise communication brevity.

5.4.2.2.2. **Specific Mission Tasks.** Beyond visual range setups; radar detection, sorting, and targeting; intercept geometry; AMRAAM launch and leave/react maneuvers or intercepts to

within visual range; separation, AGSM.

5.4.2.2.3. **Special Briefing Items.** Squadron standards for radar setup, search, sort, and targeting; TWS and RWS mechanization; intercept geometry; AMRAAM shot and kill criteria; threat E/N/F pole.

5.4.2.3. **AI-2** Low-Altitude Tactical Intercepts (X v X, Baron):

5.4.2.3.1. **Mission Objectives.** Develop techniques for low-altitude intercepts and radar utilization. Practice low-altitude IR and radar missile employment. Provide realistic air threat and visual lookout training for opposing force.

5.4.2.3.2. **Specific Mission Tasks.** Beyond visual range setups; force employment in specific OCA or DCA role; radar setup, detection, sorting, and targeting; intercept geometry; radar/IR missile defense and missile employment; separation. This mission may be flown as a dedicated sortie or in conjunction with any other continuation training sortie, AGSM.

5.4.2.3.3. **Special Briefing Items.** Radar setup, search, sort, and targeting; effect of low-altitude on aircraft performance and missile DLZ; shot and kill criteria; ID criteria.

*5.4.2.4. **NAI-1** Night Tactical Intercepts/AMRRAM (1vX medium/high Altitude Intercepts)

*5.4.2.4.1. **Mission Objectives.** Practice radar sorting and targeting in a night environment. Develop sound radar scope interpretation and cross-check. Practice intercept geometry, BVR AMRAAM employment. Develop communications discipline and proper use of GCI.

*5.4.2.4.2. **Specific Mission Tasks.** Night formation takeoff or radar trail departure; NAAR; long range setups; radar detection, sorting, and targeting; intercept geometry; AMRAAM launch and leave/react maneuvers or intercepts to within visual range; separation; CAP reset; instrument approaches.

*5.4.2.4.3. **Special Briefing Items.** Night ground operations, night flying hazards, NORDO, electrical malfunctions; moon illumination; radar setup including TWS/RWS mechanization; acquisition, sorting, targeting, and engagement techniques; GCI utilization; AMRAAM shot and kill criteria; threat E/N/F pole.

*5.4.2.5. **NAI-2** Night Tactical Intercepts/AMRAAM (XvX medium/high altitude intercepts).

*5.4.2.5.1. **Mission Objectives.** Develop techniques for multi-ship OCA/DCA tactical employment in a night environment. Establish and maintain a multi-ship CAP, commit, acquire, sort, target, engage, separate, and re-establish CAP with detached or visual mutual support.

*5.4.2.5.2. **Specific Mission Tasks.** Establish CAP; beyond visual range setups; force employment in specific OCA or DCA role; radar setups; detection, sorting, and targeting;

intercept geometry; radar/IR missile defense and missile employment; separation; reestablish CAP all in a night environment using communications and GCI to gain situational awareness and maintain mutual support; instrument approaches.

*5.4.2.5.3. **Special Briefing Items.** Night ground operations, night flying hazards, NORDO, electrical malfunctions; illumination; detached mutual support in CAP management, altitude separation within the elements, commit, acquire, sort, target, and engage techniques; GCI utilization; AMRAAM shot and kill criteria; threat E/N/F pole.

5.4.2.6. **BFM-1** (2 x F-16s 1v1 Offensive BFM):

5.4.2.6.1. **Mission Objectives.** Maneuver to maintain energy/positional advantage and kill the bandit.

5.4.2.6.2. **Specific Mission Tasks.** Weapons system check; fence check; AGSM; guns/missile employment exercises; within visual range setups for offensive maneuvering; range on setups to vary from 9,000', 6,000', and 3,000' with aspect angle to be less than 30 degrees; and missile/gun employment.

5.4.2.6.3. **Special Briefing Items.** Gun and AIM-9L/M preflight/ground checks; MFD and HUD setup; ACM modes of operation and techniques; false lock-on problems, AIM-9L/M employment techniques/envelope; EEGS gun symbology and employment techniques; assessment techniques of bandit maneuvers and counter moves to maintain the offensive; minimum range and minimum altitude awareness; loss of sight with converging vectors; snapshot techniques; and techniques for control of VTR operation.

5.4.2.7. **BFM-2** (2 x F-16s 1v1 Defensive BFM):

5.4.2.7.1. **Mission Objectives.** Negate initial and all subsequent attacks, capitalize on bandit errors to obtain a neutral/offensive position or separate.

5.4.2.7.2. **Specific Mission Tasks.** Weapons system check; fence check; AGSM; defensive gun/missile employment exercises; within visual range setups for defensive maneuvering; ranges/aspect angle for setups will vary from 9,000', 6,000', and 3,000' with 0 to 30 degrees; setups includes defensive reactions against missiles, snapshot attempts; and guns tracking attempts, employment of chaff/flares; combat separations to survive/go offensive.

5.4.2.7.3. **Special Briefing Items.** Gun and AIM-9L/M preflight/ground checks; chaff/flare preflight and programming; MFD, RDR, HUD, and RWR setup; G- awareness/neck exercise to include deep six o'clock visual search techniques; techniques for MIL only and/or AB fights; defense against all-aspect IR missiles with and without flares; assessment of climatology for optimum defense against missiles; techniques for snapshot defense with rolls underneath and over-the-top; slow speed rolling/flat scissors; gun breaks at medium to high speeds; and VTR setup and utilization.

5.4.2.8. **BFM-3** (2 x F-16s 1v1 High Aspect Setups):

5.4.2.8.1. **Mission Objectives.** Maneuver to gain offensive advantage. Kill the bandit or separate prior to becoming defensive.

5.4.2.8.2. **Specific Mission Tasks.** Weapons system check; fence check; AGSM; within visual range butterfly setups for a neutral start or BVR setups for all aspect missile defenses; ranges for set-ups as briefed.

5.4.2.8.3. **Special Briefing Items.** BVR setups; techniques for use of chaff/flares and defensive maneuvers to negate high-aspect missile shots; techniques for use of radar, GCI, and visual search to locate and prosecute a bandit after performing an all aspect missile defense; techniques for effecting a successful conversion from a short range commit.

5.4.2.9. **ACM-1** (3 x F-16s 2v1 Offensive Air Combat Maneuvers):

5.4.2.9.1. **Mission Objectives.** Operate as an effective member of an element offensively engaged with a single bandit.

5.4.2.9.2. **Specific Mission Tasks.** Weapons system check; fence check; AGSM; tactical formation; intercept to an offensive advantage; visual butterfly setups to offensive engagements; coordinated attacks, tactical reentry's into a developed fight; weapons employment; combat separations; and effective communications.

5.4.2.9.3. **Special Briefing Items.** Employment techniques of offensive tactical formations; radar search responsibilities; utilization of communication to effect coordinated attacks; GCI coordination and RT techniques; techniques for-reentry's into a developed slow-speed and medium-speed flight; counter flow reentry techniques versus same direction entries; and techniques for setup of a separation as a flight.

5.4.2.10. **ACM-2** (3 x F-16s 2v1 Defensive Air Combat Maneuvers):

5.4.2.10.1. **Mission Objectives.** Operate as an effective member of an element defensively engaged with a single bandit.

5.4.2.10.2. **Specific Mission Tasks.** Weapons system check; fence check; tactical formation; AGSM; within visual range and beyond visual range engagements (with or without GCI); bandit detection; coordinated maneuvering to negate bandit's attack; maneuver to an offensive position or separate; employment from a CAP posture with continuous engagement tactics.

5.4.2.10.3. **Special Briefing Items.** Chaff/flare ground checks and programming; no GCI radar search responsibilities; visual search techniques/pattern, lookout responsibilities; CAP procedures; defensive tactics versus offensive formations; regroup techniques after separations;

no sight defense considerations; kill removal requirements and procedures for implementation, and VTR setup and utilization.

5.4.2.11. **ACM-3** (3 x F-16s 2v1 High Aspect Air Combat Maneuvers):

5.4.2.11.1. **Mission Objectives.** Operate as an effective member of an high aspect element engaged with a single bandit.

5.4.2.11.2. **Specific Mission Tasks.** Weapons system check; fence check; tactical formation; AGSM; within visual range and beyond visual range engagements (with or without GCI); detect and negate bandit's attack; maneuver to an offensive position or separate; employment from a CAP posture with continuous engagement tactics.

5.4.2.11.3. **Special Briefing Items.** Chaff/flare ground checks and programming; no GCI radar search responsibilities; visual search techniques/pattern and lookout responsibilities; CAP procedures; defensive tactics versus offensive formations; regroup techniques after separations; no sight defense considerations; kill removal requirements and procedures for implementation, and VTR setup and utilization.

Table 5.2. Air-To-Air.

Table 5.2. AIR-TO-AIR		
AHC	1	ADVANCE HANDLING CHARACTERISTICS
AI-1	X V X	TACTICAL INTERCEPTS/AMRAAM
AI-2	X V X	LOW ALTITUDE TACTICAL INTERCEPTS (BARON)
NAI-1	1 V X	NIGHT TACTICAL INTERCEPTS (SINGLE SHIP)
NAI-2	X V X	NIGHT TACTICAL INTERCEPTS (MULTI-SHIP)
BFM-1	1 V 1	OFFENSIVE FIGHTER MANEUVERS
BFM-2	1 V 1	DEFENSIVE FIGHTER MANEUVERS
BFM-3	1 V 1	HIGH ASPECT FIGHTER MANEUVERS
ACM-1	2 V 1	OFFENSIVE AIR COMBAT MANEUVERS
ACM-2	2 V 1(+1)	DEFENSIVE AIR COMBAT MANEUVERS
ACM-3	X V X	HIGH ASPECT AIR COMBAT MANEUVERS
ACT-1	X V X	SWEEP TACTICS
ACT-2	X V X	FORCE PROTECTION TACTICS (CF)

ACT-3	X V X	AREA DEFENSE (CF)
ACT-4	X V X	POINT DEFENSE (CF)

5.4.2.12. **ACT-1** (XvX, Sweep Tactics):

5.4.2.12.1. **Mission Objectives.** Employment of an element to gain and maintain air superiority over a specified area for a specified amount of time.

5.4.2.12.2. **Specific Mission Tasks.** Weapons system check, fence check, "con" check, tactical formation AGSM; BVR setups; use of kill removal, engagement areas, safe areas, and SAM zones to effect realistic engagements; fights may be continuous through use of safe area regeneration or terminate to reset the scenario.

5.4.2.12.3. **Special Briefing Items.** MFD setup for a mixed load of AAMs; TACAN; chaff/flare setup; enemy formation/tactics; missile engagement zones; employment techniques of offensive tactical formations; radar search responsibilities; radar sampling, sorting, and targeting techniques; communication and coordination techniques; L & L/L & R/merge plot (as appropriate) tactics and consideration for sweep environment; two-ship separations; visual mutual support versus non visual mutual support; shot doctrine, criteria, and ID constraints.

5.4.2.13. **ACT-2** (XvX, Force Protection Tactics - Checkered Flag Scenario, Composite Force Mission):

5.4.2.13.1. **Mission Objectives.** Mission planning and coordination; protection of a strike package from airborne threats; develop effective commit criteria; reform tactics and coordination; engage adversary air as required to support package and survive.

5.4.2.13.2. **Special Mission Tasks.** Coordination with strike package for requisite C3, formations, route, timing, target, and threat reactions; weapons system check; fence check; AGSM; escort formations; radar and visual lookout; threat reactions as required to negate attacks; and reform as required.

5.4.2.13.3. **Special Briefing Items.** Route of flight; timing; perceived threat reaction sectors; route; formations; target area tactics; escort formations visual and radar lookout; commit criteria, strip criteria, and reform techniques; low-altitude ROE; fuel awareness; employment considerations of AIM-9/AIM-120 and gun. Shot and kill criteria, shot doctrine, and ID constraints.

5.4.2.14. **ACT-3** (XvX, Area Defense - Checkered Flag Scenario):

5.4.2.14.1. **Mission Objectives.** Employment of a force to protect a sector or lane from enemy strike or prestrike sweep.

5.4.2.14.2. **Specific Mission Tasks.** Weapons system check; fence check, battle arena check; AGSM; tactical formation; CAP; commit; detection of bandits, and maneuvers/tactics to negate attack or attempted arena encroachment; employment from a CAP posture with continuous engagement tactics; if separated, reestablish visual/mutual support; ordnance employment to kill adversary air.

5.4.2.12. **ACT-1** (XvX, Sweep Tactics):

5.4.2.12.1. **Mission Objectives.** Employment of an element to gain and maintain air superiority over a specified area for a specified amount of time.

5.4.2.12.2. **Specific Mission Tasks.** Weapons system check, fence check, "con" check, tactical formation AGSM; BVR setups; use of kill removal, engagement areas, safe areas, and SAM zones to effect realistic engagements; fights may be continuous through use of safe area regeneration or terminate to reset the scenario.

5.4.2.12.3. **Special Briefing Items.** MFD setup for a mixed load of AAMs; TACAN; chaff/flare setup; enemy formation/tactics; missile engagement zones; employment techniques of offensive tactical formations; radar search responsibilities; radar sampling, sorting, and targeting techniques; communication and coordination techniques; L & L/L & R/merge plot (as appropriate) tactics and consideration for sweep environment; two-ship separations; visual mutual support versus non visual mutual support; shot doctrine, criteria, and ID constraints.

5.4.2.13. **ACT-2** (XvX, Force Protection Tactics - Checkered Flag Scenario, Composite Force Mission):

5.4.2.13.1. **Mission Objectives.** Mission planning and coordination; protection of a strike package from airborne threats; develop effective commit criteria; reform tactics and coordination; engage adversary air as required to support package and survive.

5.4.2.13.2. **Special Mission Tasks.** Coordination with strike package for requisite C3, formations, route, timing, target, and threat reactions; weapons system check; fence check; AGSM; escort formations; radar and visual lookout; threat reactions as required to negate attacks; and reform as required.

5.4.2.13.3. **Special Briefing Items.** Route of flight; timing; perceived threat reaction sectors; route; formations; target area tactics; escort formations visual and radar lookout; commit criteria, strip criteria, and reform techniques; low-altitude ROE; fuel awareness; employment considerations of AIM-9/AIM-120 and gun. Shot and kill criteria, shot doctrine, and ID constraints.

5.4.2.14. **ACT-3** (XvX, Area Defense - Checkered Flag Scenario):

5.4.2.14.1. **Mission Objectives.** Employment of a force to protect a sector or lane from enemy strike or prestrike sweep.

5.4.2.14.2. **Specific Mission Tasks.** Weapons system check; fence check, battle arena check; AGSM; tactical formation; CAP; commit; detection of bandits, and maneuvers/tactics to negate attack or attempted arena encroachment; employment from a CAP posture with continuous engagement tactics; if separated, reestablish visual/mutual support; ordnance employment to kill adversary air.

5.4.2.14.3. **Special Briefing Items.** Setup of MFD's, RWR, chaff/flares, radar, TACAN, and ECM for air defense operations; search responsibilities (radar, visual, and RWR); commit/abort criteria; short range re-commit procedures; regroup techniques; attack/reattack considerations in multiple bandit environment; L & L/L & R/merge tactics as appropriate; enemy formations, tactics, and ordnance considerations; shot criteria, doctrine, and ID constraints.

5.4.2.15. **ACT-4** (XvX, Point Defense - Checkered Flag Scenario):

5.4.2.15.1. **Mission Objectives.** Employment of an force to protect a target from enemy strike or prestrike sweep.

5.4.2.15.2. **Specific Mission Tasks.** Weapons system check; fence check, battle arena check; AGSM; tactical formation; CAP; detection of bandits, and maneuvers/tactics to negate attack or attempted target attack; employment from a CAP posture with continuous engagement tactics; if separated, reestablish visual/mutual support; ordnance employment to kill adversary air.

5.4.2.15.3. **Special Briefing Items.** Setup of MFD's, RWR, chaff/flares, radar, TACAN, and ECM for air defense operations; search responsibilities (radar, visual, and RWR); commit/abort criteria; short range re-commit procedures; regroup techniques; attack/reattack considerations in multiple bandit environment; L & L/L & R/merge tactics as appropriate; enemy formations, tactics, and ordnance considerations; shot criteria, doctrine, and ID constraints.

5.5. Airborne Communications Training Procedures:

5.5.1. **General.** Airborne communications training is designed to produce the radio discipline to deny the enemy valuable tactical information and to simulate an ECM/ECCM environment. Radio silent training emphasizes the voluntary minimum use of radio. ECM/ECCM training consists of procedural techniques which simulate a jamming environment but which have limited combat applications in the face of known enemy capabilities. In the jamming environment, pilots must assume no radio or limited radio capability based on line of sight of jammer, integrated use of UHF and VHF, and proximity to their wingman. Radio silent and communications jamming training may be conducted together or separately.

5.5.2. Radio Silent Training:

5.5.2.1. **Procedures:**

5.5.2.1.1. **When.** Radio silent training may be conducted during the tactical portion of any training mission with the exception of ACBT.

5.5.2.1.2. **Coordination.** Flights notifies Clover that limited communications procedures will be used and coordinate their route of flight, range entry time, and flight tactics prior to takeoff.

5.5.2.1.3. **Operations.** Flights desiring to practice radio silent operations will utilize normal procedures and radio communications until established on a tactical frequency. Initial check in with Clover should be accomplished as per normal operating procedures.

5.5.2.1.4. **Clover Responsibility.** Clover ensures that the range is clear at the scheduled time. Flights will have clearance on the range unless advised otherwise by Clover. The tactics portion of the mission includes minimum use of the radio and/or communications jamming procedures.

5.5.2.2. **Safety.** Pilots will ensure that safety is in no way compromised by the use of radio silent procedures.

5.5.2.2.1. **KNOCK IT OFF.** A wing rock and the term "Knock it off" will terminate radio silent training if there is an aircraft emergency, the flight cannot be flown as briefed, or a condition exists which could adversely affect the safety of the flight.

5.5.2.3. **Recovery.** Flights terminate radio silent operations upon completion of the tactics portion of the mission. Flights recover in the normal manner utilizing the UHF radio.

5.5.3. **Communications Jamming Training:**

5.5.3.1. **General.** These procedures have been developed to provide standardized calls needed to reduce confusion and jammer constraints for safety factors. Variations for innovative thinking in tactics are encouraged.

5.5.3.2. **Airborne Jamming Sources.** The following methods are available to provide communications jamming:

5.5.3.2.1. **Primary Jamming Source.** Communication jamming recordings played over the UHF radio by Clover control is the primary jamming source.

5.5.3.2.2. **Secondary Jamming Source.** Cassette recordings of communications jamming played through the UHF radios, F-16 tone button for both the UHF and VHF radios, jamming sources simulated verbally over the radio, or intrusion/deception conducted by a ground controller, FAC/SCAR, or flight member.

5.5.3.2.3. **Jamming for CAS Missions.** Provided by a second airborne or ground FAC. When these resources are not available, jamming may be conducted by range control, primary FAC, or by a wingman.

5.5.3.2.4. **Jamming for Intercept Missions.** Conducted by the target aircraft. The Baron aircraft may, when briefed, conduct communications jamming or intrusion/ deception against selected missions with approval of the flight leader(s).

5.5.3.2.5. **Jamming for Special Missions.** Follows the guidelines provided for CAS and counter air.

5.5.3.3. **Jamming Safety.** A safety call to terminate jamming can be made by any pilot or controller on any frequency and at any time that jamming presents a hazard to flight. The call: "SAFETY, SAFETY, SAFETY," will be made to terminate jamming.

5.5.3.3.1. **Guard.** All participating pilots and controllers are required to monitor guard and all assigned mission frequencies. Initially, some pilots will experience difficulty in performing this monitoring function. To overcome this problem, it is very important to balance cockpit audio inputs from the radios, intercom, RWR, and AIM-9 missiles.

5.5.3.3.2. **Jamming Procedures Conducted.** On specified allocated frequencies after first determining if the nature of the transmission is tactical and not related to safety. Delay ten-to-twelve seconds during initial communications; do not employ jamming if a safety call has been made. In short bursts, not exceeding eight seconds. A two-second delay is allowed between jamming bursts if there has not been a tactical transmission for the past thirty seconds.

5.5.3.3.3. **Jamming is Prohibited.** On guard channel, specified mission frequencies used to reestablish communications when contact is lost, and ATC frequencies.

5.5.3.3.4. **Clover Coordination.** Pilots coordinate with Clover prior to each mission where communication jamming is desired. Pre-brief with Clover the vulnerability times for jamming, authorized frequencies, safe frequencies, area restrictions, chattermark procedures, monitor requirements, and authentication requirements.

5.5.3.3.5. **Mission Planning/Briefing.** The most severe jamming should be anticipated, and a radio out plan for the target area must be developed and clearly understood by all participants. Every intra-cockpit and intra-flight responsibility and procedure must be preplanned. Plan and brief the area restrictions, chattermark procedures, use of two radios, monitor requirements, rendezvous point and frequency, acknowledge procedures, and standardized calls.

5.6. Electronic Combat Training:

5.6.1. **General.** Electronic combat (EC) training is accomplished to ensure all 419 FW F-16 pilots are both knowledgeable and proficient in possessed F-16 EC systems. EC training also

provides training in enemy EC capabilities and philosophy of employment, correct use of EC systems against specific threats and ordnance types, and effective use of evasive maneuvers in concert with EC systems. Through an ongoing, active EC Program, the system's reliability is enhanced thus providing the desired protection when needed.

5.6.2. Responsibilities. The 419 OSF/DOK is responsible for the overall conduct of the wing EC program. A wing electronics warfare officer (EWO) and a squadron electronic combat pilot (ECP) is responsible for the 419 FW EC Program within the DOK shop.

5.6.3. Ground Training:

5.6.3.1. Coordination. Coordinate EC training through the wing EWO. Instructors include members of the intel shop, pilots qualified to instruct specific systems/tactics based on experience and attendance at formal academic training courses, and guest lecturers when available.

5.6.3.2. Academics. Academic training should include the KY-58 radio, "Have Quick" radio, ALR-69 RWR, ALE-40 chaff and flare dispenser, IFF/SIF system, ALQ-131 jamming pod, F-16 radar ECCM capabilities/ vulnerabilities, EC support equipment (EF-111, EC-130, F4E/G, and so on), electronic combat (EC) principles, enemy electronic jamming equipment, enemy surface-to-air missiles, enemy anti-aircraft artillery, airborne interceptor threat, potential bomber/transport/attack threat, integrated air defense system, and MCM 3-1V2, *Threat Reference Guide and Countertactics*.

5.6.3.3. Testing. Accomplished testing as prescribed by MCI 11-F16V1.

5.6.4. Flying Training:

5.6.4.1. System Evaluation. The first area of flying training is composed of checking on board systems. This includes the "Have Quick" radio, ALR-69 RWR system checks, ALE-40 count down/light validation, IFF/SIF mode checks (I, II, III, IV, C), and ALQ-131 system checks. The 419 OSF/DOK shop outlines and briefs local procedures as appropriate to all pilots.

***5.6.4.2. Flights on an Electronic Combat Range.** The second area of flying training consists of sorties actually flown on an electronic combat range. All 419 FW training ranges have electronic combat capability. The Utah Tactics Range is the primary area for EW training followed by Saylor Creek Range, NAS Fallon, and the Nellis range complex. Sorties are flown in this environment to give maximum EC training to our pilots in compliance with MCI 11-F16V1.

5.6.4.3. Required Events. The requirement exists to accomplish ECM training. The 419 FW policy for F-16 pilots is to attempt to accomplish ECM training on as many sorties as possible, based on range, time, and equipment constraints.

5.7. Kill Removal Criteria:

5.7.1. **Purpose.** "Kill removal training" attempts to enhance realistic training, and flights may employ kill removal procedures to create unpredicted changes in flight composition and realistic situations during tactical missions.

5.7.2. Procedures:

5.7.2.1. **Flight Lead Authorization.** Flight members may be simulated "killed" and removed in any manner or under circumstances designated by the flight lead. For example, airborne attack, simulated ground fire, or simulated SAM engagement may be used to realistically remove a flight member.

*5.7.2.2. **Kill Removal Procedures.** Following removal from the flight, the member who has been simulated "killed" will proceed to the designated rejoin point, regenerate after a specified period of time, or RTB as directed by the rules employed for that particular mission. Separate IFR clearance may be required for the removed flight member.

5.8. Low-Altitude, Air-To-Air Training (LOWAT) Program:

5.8.1. **General.** Pilots need to be prepared to conduct offensive and defensive low-altitude air-to-air operations against hostile aircraft. Given the tactical advantages of operating at low-altitude, it is essential to be highly proficient in detecting, sampling, sorting, analyzing, and reacting offensively/defensively to air-to-air threats while at low-altitude. The low-altitude arena is below 5,000' AGL.

5.8.2. Objectives:

5.8.2.1. **Training.** Provide tactical training against an opposing aerial threat at low-altitude.

5.8.2.2. **Reactions.** Training in the detection, interception, and engagement of airborne threats as well as defensive reactions to attacks from opposing fighters.

5.8.2.3. **Surface Attack.** Provide pilots performing air-to-surface missions the opportunity to observe, analyze, and react to aerial attacks and proceed to successfully complete their primary mission.

5.8.3. General Instructions:

5.8.3.1. **Definition.** Low-altitude air-to-air training is defined as training in the detection, interception, engagement, or evasion of an opposing aerial threat at low-altitude. This training should stress such basic practices as mutual support, effective communications, and sound tactics commensurate with type threat, ROE, weather, etc.

*5.8.3.2. **Element Integrity and Supervision.** The opposed SAT portion of the flight must be thoroughly briefed by the flight leader. When a four ship splits off a single ship Baron, the remaining three aircraft fly a "VIC" formation and the two-ship in trail must have a flight lead in the element. If fallout occurs, AFI 11-214 TR applies.

*5.8.3.3. **Interceptor/Bandit Role.** When performing LOWAT in support of air-to-surface scenarios, singles, two-ship flights, or multiples thereof are authorized. If single ship Barons are used the Baron must be a flight leader and remain above 1500 feet AGL until within visual range of the flight he is engaging.

5.8.3.4. **Flight Split Up.** Pilot(s) performing offensive LOWAT may separate from the flight for a portion of the mission to provide the requisite training for the rest of the flight.

5.8.4. **LOWAT Mission Authorization:**

5.8.4.1. **Checkrides.** Any mission ready LOWAT qualified pilot, as well as flight examiners, are authorized to perform LOWAT attacks during tactical flight evaluations.

*5.8.4.2. **Other Unit Participation.** Barons may be used in any air-to-ground mission unless prohibited by syllabus. The squadron commander or operations officer approves LOWAT missions flown by unit pilots and squadrons other than the 466 FS.

*5.8.5. **Pilot Qualification.** Prior to performing in the LOWAT program, each pilot accomplishes the LASDT-3 air-to-air sortie as defined in Chapter 4 of this instruction. Once a pilot has completed the LASDT-3 program, or has been waived through the program due to accomplishment of a previous program, the pilot is identified on the aircrew letter of Xs is qualified to perform low-altitude air-to-air below 1,000' AGL (No program is required to fly LOWAT between 1,000'-5,000' AGL.)

5.8.6. **Authorized Participants and Areas:**

5.8.6.1. **Training Areas.** LOWAT missions are authorized on ranges, MOAs, and approved low level routes.

5.8.6.2. **Safety.** Flight safety must be adhered to at all times and the most restrictive training rules (TR) applies to whichever area/route is used for the training.

5.8.6.3. **Training Rules (TR) Briefing.** Pilots do not participate unless the specific LOWAT TR are briefed as prescribed by AFI 11-214, and the flight lead authorizes the participation for the flight.

5.8.7. **Responsibilities:**

5.8.7.1. **Flight Leader.** Flight leaders brief all flight members on appropriate TR and expected threat reactions.

5.8.7.2. **GCI Control.** Clover/Warrior/Ace Maker or other GCI provide intercept control when possible, separation from known non-participating traffic, and separate frequencies when available.

5.8.7.3. **Offensive LOWAT Pilot(s):**

5.8.7.3.1. **Brief GCI.** Pre-coordinates LOWAT profiles with Clover control.

5.8.7.3.2. **RT Contact.** Establishes direct contact with the flight lead of each targeted flight.

5.8.7.3.3. **Authorized Players.** Ensures proposed target pilots are authorized LOWAT players.

5.8.7.3.4. **Coordination Brief.** Attends permission briefings to ensure TR's are understood and to establish the altitude block(s) to be flown.

5.8.7.3.5. **RT Contact Established.** Attempts to be on target flight frequency (UHF or VHF) by 10 NM or tallyho unless separate frequency use of GCI is planned for entire attack profile.

5.8.9. **Configuration:**

5.8.9.1. **Live Missiles.** Do not configure aircraft with live missiles.

*5.8.9.2. **Hot Gun.** Aircraft with an armed gun has the master arm switch in off or simulate, do not activate the trigger while attacking or being attacked. Do not perform cold trigger check with a hot gun.

5.8.9.3. **Aircraft Limits.** Observe aircraft limits appropriate to stores configuration.

5.8.10. **Altitude Limits.** Offensive LOWAT players do not descend below 500' AGL. Defensive LOWAT players may fly as low as their level of currency allows. There is no turning defensive LOWAT reactions below AFRES TMT LOWAT currency, or 500' AGL.

NOTE: Due to varying restrictions to low-altitude operations caused by aircraft mishaps, revised threat assessments, political realities, noise abatement, etc., flight leads should review the FCIF and AFI 11-214, *Aircrew and Weapons Director Procedures for Air Operations* prior to conducting a low-altitude mission.

5.8.11. **Currency.** A 90 day currency is required for low-altitude air-to-air training below 1,000' feet AGL.

5.8.11.1. **Maintenance.** Currency below 1,000' AGL may be maintained by flying one LOWAT continuation training event below 1,000' AGL in a 90 day period (experienced).

5.8.11.2. **Definition.** A LOWAT event is defined as an attack or defensive reaction to an actual airborne threat.

5.8.11.3. **Recurrency.** If a pilot's currency has lapsed, it may be regained by accomplishing the following tasks at or below 1000' AGL under the supervision of a certified IP/FL prior to tactical low altitude air-to-air employment below 1000' AGL:

5.8.11.3.1. Vertical awareness training.

5.8.11.3.2. Hard turns and tactical turns.

5.8.11.3.3. Tactical formation.

5.8.11.3.4. Offensive and defensive responses.

5.8.12. **Scenarios:**

5.8.12.1. **Established Scenarios.** Any scenario as listed in Section 5-3 and 5-4 of this chapter may be utilized for LOWAT. Any type scenario that provides tactical problems and learning potential may be used except ACBT/(D)ACT scenarios are prohibited below 5000' AGL.

5.8.12.2. **Flight Lead Established Scenarios.** Establish special scenarios to utilize specific weather constraints. As an example, establishing a 2,000 foot ceiling that no one will penetrate for the intercept. This helps train for the varied weather conditions not normally found/used in training scenarios.

5.9. **Instrument Training:**

5.9.1. **Purpose.** To establish a wing instrument training program as prescribed in MCI 11-F16V1 when the need requires such sorties.

5.9.2. **Procedures:**

5.9.2.1. **When.** 419 FW F-16 pilots fly instrument sorties as required/desired in addition to the instrument evaluation.

5.9.2.2. **Profiles.** Profiles allow pilot accomplishment of instrument training sorties. The F-16D can be utilized or two F-16C's. If weather is present, single-ship F-16C sorties may be launched to gain full credit for instrument flying. Accomplish any unusual attitudes only in the F-16D, with an IP in the back. The following suggested profiles can be used:

5.9.2.2.1. **Profile 1.** Round robin; AF Form 70, **Pilot's Flight Plan and Flight Log**; DD Form 175, **Military Flight Plan**; DD Form 175-1, **Flight Weather Briefing**; SID/radar vectors; unusual attitudes (if in an F-16D); TACAN/INS navigation; lost wingman exercise (if two-ship); TACAN holding, penetration, approach, and missed approach; ILS approach, missed approach; and PAR approach, missed approach.

5.9.2.2.2. **Profile 2.** Cross-country or out and back accomplishing the same events as profile one. Fill out a 419 FW Form 2, **Request for Cross Country Flight**, two weeks prior to your proposed departure date; and submit it to the 466 FS/DOS.

5.9.2.2.3. **Profile 3.** Local flight (scheduled, weather backup, or alternate mission): Line-up card; stereo departure; TACAN/INS navigation; TACAN holding, penetration, approach, and missed approach; ILS approach, missed approach; PAR approach, missed approach; lost wingman exercise. (if two-ship); and unusual attitudes (if an F-16B)

***5.10. Mission Capable/Basic Qualification Flying Training:**

*5.10.1. **Requirements.** Requirements for MC/BQ pilots are established in MCI 11-F16V1, chapter 4. Pilots may train beyond those requirements in Table 4-2 as needed to meet unit needs. In accomplishing the minimum requirement of thirty sorties per half, MC pilots will fly five sorties per month-leave, job, and TDY permitting. At least two-thirds of sorties flown by MC pilots will be GCC sorties. The goal is to have MC pilots proficient, not just qualified and current.

*5.10.2. **Flight Limits.** MC/BQ pilots are not to engage in any offensive or defensive maneuvering below 1000' until completing the mission qualification LASDT training outlined in Chapter 4 of this instruction. After completion the squadron commander or operations officer notes specific clearance to operate at low altitude on the Letter of X's.

5.11. Chemical Warfare Defense Training.

5.11.1. **General.** Accomplish Chemical Warfare Defense Training as prescribed in MCI 11-F16, V1.

5.11.2. **Requirements.** Pilots scheduled for CWD flights ensure that premission life support training is accomplished.

5.11.3. **Training.** Accomplish a CWD SEPT trainer during the annual training period, as directed in the GCC tasking message, and just prior to the CWD flight, if required. The SEPT portion of the training is supervised by another pilot as listed in 419 FWI 11-401, Chapter 7. Missions are normally scheduled to a controlled range, but normal tactical four-ships may be flown; however, in no case violate the restrictions of MCI 11-F16, V1. Scenarios will be low threat with emphasis on low-threat deliveries. A covered vehicle will be used for transport to the aircraft and individuals train with minimum simulation within safety constraints.

***5.12 G -Awareness Continuation Training.**

*5.12.1. **General.** G Loss of Consciousness (GLOC) is a major safety hazard in high performance fighter aviation. The G- Awareness Continuation Training Program is established to minimize the probability of GLOC by increasing and maintaining pilot awareness of the danger. It also formalized the supervisory involvement in monitoring each pilots Anti-G Straining Maneuver (L-1).

*5.12.2. **Requirements.** Assure that all pilots have their video tapes reviewed critiqued by a squadron supervisor and a flight surgeon at least once each training period.

***5.12.3. Responsibilities.**

*5.12.3.1. **Supervisors, Instructor Pilots, and Flight Leads.** Learn to assess a proper AGSM (L-1) from videotape and encourage the emphasis on AGSM (L-1) during briefings and debriefings. Assess AGSM of pilots in your flight while reviewing the tactical portions of your mission. In the case of poor AGSM performance, notify the Operations Officer. He and the Training Officer will review the pilots L-1 maneuver and, if necessary, place the pilot in a formal training program to improve his AGSM technique to ensure flight safety.

*5.12.3.2. **Flight Surgeons.** Learn to assess a proper AGSM (L-1) from videotape and regularly review pilot performance by reviewing videotape or flying with each pilot. Document the review of one air-to-air tape per pilot per annual training cycle.

5.12.3.3. **466FS/DOT.** Develop and maintain a tracking system to assure that all pilots are critiqued on their AGSM by a squadron supervisor at least once each training period.

*5.12.3.4. **466FS/DOK.** Present AGSM instructional videotape "Anti-G Straining Technique Reinforcement and Assessment" or the currently recommended training video annually in UTA academics. Also emphasize the disadvantages of an improper AGSM in the A/A combat arena.

*5.12.3.5. **Pilots.** Emphasize GLOC hazards and preventive techniques in flight briefings; review videotapes of G-warmup exercises in debriefings. Film all G-warm-up's in hot mike and use hot mike on all demanding, high G portions of flight. Make AGSM a normal debrief item on every flight. Log a G-straining maneuver with supervisor when your mission tape is reviewed by a flight commander or above.

Chapter 6

SPECIALIZED UPGRADE TRAINING PROGRAMS

6.1. General:

6.1.1. **Contents.** This chapter contains the local upgrade requirements for pilots accomplishing mission qualification training in Maverick, chemical warfare, AMRAAM conversion training low-altitude, step down, flight lead upgrade, instructor upgrade, and ASLAR training. These specialty programs are not required to become MR. They must be accomplished prior to an individual being considered qualified in that particular area. **Table 6.1.** lists all syllabus specialized upgrade training programs.

6.1.2. **Low Altitude Training.** Low-altitude step-down training must be accomplished if a pilot is to fly below 500' or participate in the low-altitude air-to-air training program (LOWAT) below 500' AGL. This training is prescribed by MCI 11-F16, Vol 1 and AFRESR TMT LASDT/LOWAT program.

6.1.3. **Specialty Upgrades.** The flight lead, instructor pilot, range control certification, supervisor of flying certification, and ASLAR certification is accomplished at the discretion of the operations officer or squadron commander.

6.1.4. **Other Training Requirements.** From time to time squadron deployments may require special preparatory training. Participation in WSEP, Red Flag, over-water deployments, or other special events is considered on an individual basis. The content of training and documentation is determined by the commander when this need arises.

6.2. MQT Maverick Training:

6.2.1. General:

6.2.1.1. **Academics.** Accomplish the entire academic program before flying the training portion of the Maverick upgrade program.

6.2.1.2. **Supervision.** A Maverick qualified instructor is required for Maverick training.

6.2.1.3. **Configuration.** D models can be substituted for Cs if available for MQ-MAV-1.

6.2.1.4. **Grade Sheet.** Complete the AF Form 1363 overprint, Initial MAV Qualification Grade sheet, and the initial MAV program work sheet.

6.2.1.5. **Sorties.** If previously maverick qualified, the squadron commander can waive sorties for qualification as prescribed by MCI 11-F16 V1.

6.2.2. **Ground Training (466FS/DOK).** Academics for Maverick consist of the following: principles of AGM-65A/B/D/G model systems and operations; missile guidance and control operation, capabilities, and limitations; systems capabilities, limitations, and aircraft interface; basic systems operations and aircraft switchology; the defensive threat and effect with EO/IR systems; employment considerations with EO/IR conventional weapons; preplanning as related to sun angle, weather, terrain, and types of targets; tactical mission planning exercise; and a written examination (Maverick test).

Table 6.1. Specialized Upgrade Training Sorties.

Table 6.1. SPECIALIZED UPGRADE TRAINING SORTIES		
MTT-07	MTT	-MAVERICK ORIENTATION
MQ/MAV-1	2/4 F-16s	INITIAL MAVERICK PROFICIENCY AND TACTICS TRAINING (EO/IR)
MQ/MAV-2	2 F-16s	MAVERICK TACTICAL EMPLOYMENT
MQ/MAV-4	2 F-16s	NIGHT MAVERICK PROFICIENCY AND TACTICS
TI-AMRM-1	4 F-16s	AMRAAM CONVERSION TRAINING
TI-AMRM-2	4 F-16s	AMARRM CONVERSION TRAINING
IQ/CWD-1	MTT	INITIAL CHEMICAL WARFARE DEFENSE
LASDT/LOWAT	2 F-16s	*SEE AFRES TMT ACADEMICS PHASE MANUAL
FL-1	2 F-16s	OFFENSIVE BFM
FL-2	2 F-16s	DEFENSIVE BFM
FL-3	2 F-16s	HIGH ASPECT BFM
FL-4	¾ F-16s	(2v1/2v1 + 1) ACM
FL-5	4 F-16s	2v2 (AMRAAM) AI (2/4vX)
FL-6	4 F-16s	2v2 ACT CAP V SWEEP (2/4Vx)
*FL-7	4 f-16S	4Vx AREA DEFENSE V SWEEP
FL-8	2/4 F-16s	SURFACE ATTACK CONVENTIONAL
*FL-9	2 F-16s	NIGHT WEAPONS
FL-10	2/4 F-16s	SURFACE ATTACK TACTICS-LOW/MEDIUM THREAT TACTICS
FL-11	4 F-16s	SURFACE ATTACK TACTICS-HIGH THREAT TACTICS
FL-12	4 F-16s	FLIGHT LEAD CERTIFICATION

MTT-108	MTT	MTT INSTRUCTOR OPERATIONS
IP-1	1-2 F-16s	DAY TRANSITION/TACTICAL MANEUVERING
*IP-2	1-2 F-16s	NIGHT TRANSITION/AIR INTERCEPTS
IP-3	2 F-16s	OFFENSIVE BFM
IP-4	2 F-16s	DEFENSIVE BFM
IP-5	2 F-16s	HIGH ASPECT BFM
IP-6	¾ F-16s	ACM (2v1/2v1 + 1)
MTT-109	MTT	INSTRUCTOR AIR-TO-AIR OPERATIONS
IP-7	4 F-16s	(D) 2v2 AI(AMRAAM) (2/4Vx)
IP-8	4 F-16s	(D) 2v2 D/ACT (AMRAAM) (2/4Vx)
MTT-110	MTT	INSTRUCTOR AIR-TO-GROUND OPERATIONS
IP-9	2/4 F-16s	SURFACE ATTACK CONVERSION
*IP-10	2 F-16s	NIGHT SURFACE ATTACK
IP-11	2/4 F-16s	SURFACE ATTACK TACTICS-LOW/MEDUIM THREAT
IP-12	2/4 F-16s	SURFACE ATTACK TACTICS-HIGH THREAT
MTT-111	MTT	INSTRUCTOR MAVERICK OPERATIONS
IP-CHECK	2/4 F-16s	IP EVALUATION
*KS-1	2/4/6 F-16s	KILLER SCOUT – WINGMAN
*KS-2	2/4/6 F-16s	KILLER SCOUT – FLIGHT LEAD
*KS-3	2/4/6 F-16s	KILLER SCOUT CERTIFICATION
*MC-1	X/X	MISSION COMMANDER CERTIFICATION
*LSI-1	2 F-16s	LOW/SLOW SPEED EID/VID INTERCEPTS

6.2.3. Flight Training:

6.2.3.1. **MTT-107:** Time: 1.0 hrs. crew: 2/1 mission ready pilots. See Chapter 7 for profile.

6.2.3.2. **MQ/MAV-1** (2/4 F-16C/D) Time: 1.5 hrs. crew: IP and upgrader or upgrader/IP. configuration: TGM 65 D/G, BDU-33's or EO Mav, AVTR, CTVS, and centerline external tank.

6.2.3.2.1. **Mission Objectives.** Introduce F-16C Maverick avionics and weapons system orientation. Familiarization with weapon preflight and inflight operations. Introduce and practice boresight procedures, roll in, lock on and track techniques using curvilinear patterns and fly ups.

6.2.3.2.2. **Specific Mission Tasks.** SSTO trail departure; weapons system checks; boresight checks; fence and G checks; basic curvilinear patterns on multiple stationary targets using VIS and PRE avionics; fly up attacks using VIS and PRE avionics on stationary and moving targets; In trail attacks using GMT/GMTT against moving targets.

6.2.3.2.3. **Special Briefing Items.** Focus of the sortie is to acquaint the upgrader with the F-16C Maverick switchology, aiming avionics and the use of GMT/GMTT. Briefing should focus on F-16C ground operations, boresight procedures, VIS and PRE modes of aiming. SOI control, IR bounding, sun angle, and transmissivity is discussed. IR model Maverick specifics, aiming modes, and employment is addressed. GMT/ GMTT use against moving targets and SOI control is briefed.

6.2.3.3. **MQ/MAV-2** (2 F-16C) Time: 1.5 hrs; crew: IP and upgrader. configuration: TGM 65 D/G, BDU-33's or EO mav, AVTR, CTVS, centerline external tank required.

*6.2.3.3.1. **Mission Objectives.** Demonstrate proficiency in track and launch, element attack procedures and tactics. LATF and LATN for high threat Maverick employment against moving and stationary targets. Tactical Maverick attacks using preplanned modes of employment to include VRP/CRP and GMTT. OAP/VRP aiming used against multiple tactical targets.

*6.2.3.3.2. **Specific Mission Tasks.** SSTO trail departure; weapons system checks; boresight checks; fence and G checks; LATF and LATN for first look element SAT attacks against moving and stationary tactical targets; shooter eyeball attacks against LOC's; visual recce. Element formations to include shooter/cover and shooter/shooter tactics.

*6.2.3.3.3. **Specific Briefing Items.** Focus of the sortie is to employ Mavericks in a high threat environment against moving and stationary, tactically sized targets. The briefing focuses on SOI control and avionic interface for GMTT and GM VRP/CRP pre-planned Maverick attacks. SOR control is briefed to include the use of off boresight aiming OAP (GM) and GMT target track.

Note: Each pilot must see at least one sortie using a G model Maverick in order to complete the program. For example, should a pilot see the G model Maverick on the first sortie and not the second, this is not grounds for an incomplete check out.

6.2.3.4. **TI-1 (AMRAAM).** (2 F-16C & 2 or more other) Low/Med/High altitude AMRAAM Tactical Intercepts.

6.2.3.4.1. **Mission Objectives.** Introduce & practice element AMRAAM tactical employment vs. AA-10A threat. Demonstrate sound knowledge of MCM 3-1 Shot/Kill criteria.

6.2.3.4.2. **Specific Mission Tasks.** Trail Departure; weapons/fence checks; AGSM; beyond visual range (35-40 NM) tactical intercepts to BVR shot clearance. Emphasis on Launch & Leave vs. AA-10A threat. Range, Azimuth, and 1 group threat tactics is presented.

6.2.3.4.3. **Special Briefing Items.** Focus of sortie is to ensure each upgrading pilot has a solid foundation in APG-68 employment mech, AIM-120A shot/kill criteria, standard COMM, and element employment tactics. Briefing emphasis is on DCA considerations (CAP, Commit/Commit abort); search, sort, and AIM-120A shot doctrine. The IP dictates specific bandit formations/actions to ensure the upgrading pilot is exposed to the desired range of tactical situations. (See "Bandit Spins.") Every attempt is made to limit flight maneuvering and AB use to maximize long/medium range FCR/AMRAAM employment.

6.2.3.5. **TI-2 (AMRAAM).** (2 F-16C & 2 or more other) Low/med/high altitude AMRAAM tactical intercepts.

*6.2.3.5.1. **Mission Objectives.** Practice element AMRAAM tactical employment vs. AA-10A threat. Demonstrate proficiency with MCM 3-1, Vol 1 Shot/Kill criteria, APG-68 mech, and AMRAAM communications.

6.2.3.5.2. **Specific Mission Tasks.** Same as TI-1 (AMRAAM)

6.2.3.5.3. **Special Briefing Items.** Focus of sortie is to reinforce AMRAAM employment considerations from TI-1 (AMRAAM.) Briefing emphasis should shift from element basics to tactical considerations when facing "AMRAAM aware" bandits and resulting impact on shot doctrine/weapon employment zones. The IP dictates specific bandit presentations to ensure upgrading pilot is exposed to "trashed/lost" shots. (See "Bandit Spins" in AMRAAM study guide.)

6.3. IQT Chemical Warfare Defense (CWD) Training:

6.3.1. General:

6.3.1.1. **Requirements.** Accomplish all CWD training as prescribed in MCI 11-F16V1. Pilots requiring IQT CWD training should become familiar with that section prior to receiving the required training.

6.3.1.2. **Work sheet.** Complete the chemical warfare flight requirements work sheet.

6.3.1.3. **Training.** Manage flight training with flight safety as the primary concern. Due consideration must be given to the limitations of the CWD helmet, mask, and filter pack. Gloves are worn during the IQT flight.

*6.3.2. **CW MTT.** A CW MTT mission will be accomplished within 30 days of the IQT CW flight. Full CW ensemble will be worn.

6.3.3. **Flight Training.** IQ/CWD-1: (Aircraft: 1 x F-16D, 1 x F-16C; time: 1.4; crew: upgrader/MP, FL; configuration: as available)

6.3.3.1. **Mission Objectives.** Introduce flight while wearing a partial CWD gear ensemble and safely operate in an air-to-surface and/or air-to-air role in the aircrew CW ensemble.

6.3.3.2. **Specific Mission Tasks.** Cockpit familiarization; field of view checkout; single-ship takeoff and join-up (no closer than route); weapons system check; low-altitude tactical formation (500' AGL minimum), LATN, LALD dry (or wet on a controlled range); medium-altitude advanced handling; G- awareness exercises; offensive and defensive ranging; intercepts; instrument approach(s); overhead pattern(s); SFO (if available); and single-ship landing.

6.3.3.3. **Special Briefing Items.** Importance of proper mask fit, loss of feel through the gloves, breathing difficulty because of restrictive flow through the CRU-80P filter, preflight of aircraft, mask slippage under G, hot weather problems, emergency removal of mask in flight, defogging mask, over water ejection, and compensation for hot spots.

6.4. Low-Altitude Step-Down Training (LASDT/ LOWAT) Program:

*6.4.1. **General.** LASDT A/G and A/A 500' checkout is prescribed in para 4.4. If checkout below 500' is authorized, use MCI 11-F16v1 for guidance.

6.5. Flight Lead Upgrade Training:

6.5.1. **General.** This program is designed to prepare designated pilots to lead and employ tactical maneuvers on all missions for which the squadron normally trains. Conduct the program as prescribed in MCI 11-F16V1, and this instruction. The squadron commander or operations officer selects highly qualified pilots for the upgrade program based on experience, judgment, know-ledge, skill, and leadership potential. Upon completion of this program, a pilot is considered a flight lead capable of leading any size flight of up to four A/C.

6.5.2. General Instructions:

6.5.2.1. **Hour Requirement.** The upgrader must have 250 hours UE or 50 hours UE and previously qualified as a flight lead in another fighter aircraft.

6.5.2.2. **Ground Training.** Accomplish required ground training prior to flights.

6.5.2.3. **Overall Program.** Consistent with flight safety, the squadron commander or operations officer may authorize deviations to the training syllabus to adjust for unusual weather, local scheduling, difficulties, upgrader progress, or previous experience. The overall program is coordinated with the 466 FS/DOT, and documented in the upgrader's training folder.

6.5.2.4. **Timeliness.** The program progresses in a manner that allows the pilot to progress through training with no long term lapses between flights. The operations officer adds

proficiency sorties as necessary based upon the operations officers judgment as to each individual's abilities to meet the demands of the program after a lapse of flying. The pilot may request additional sorties.

6.5.2.5. **Responsibilities.** The upgrader is brief, lead, and debrief all flight lead upgrade missions.

*6.5.2.6. **Clearance to Lead.** IPs and FL qualified supervisors may allow any pilot to lead limited portions of a mission if appropriately briefed. See MCI 11-F16, Vol 1, para 1.5.4.2. for more guidance.

6.5.2.7. **Supervision.** Flight lead upgraders require the supervision of an IP or experienced flight lead-qualified flight commander or higher level supervisor for each sortie/event.

6.5.2.8. **Scenario Profiles.** Normally, continuation training profiles are used and other members of the flight are not receiving instruction. Deviations are permitted with squadron commander or operations officer approval.

6.5.2.9. **Grade Sheet.** Complete a flight lead grade sheet for all upgrade missions. An overall minimum grade of two is required and all mission objectives require the same minimum level. Use the flight lead upgrade worksheet for gradefolder documentation for all ground and flying training accomplishments.

6.5.2.10. **Techniques.** Although the upgrader does not have to instruct, briefings, flight conduct, and debriefings should include procedures and techniques sufficient to demonstrate his capability to lead new MR wingmen.

6.5.2.11. **Certification Sortie.** The flight lead certification ride is administered by the squadron commander or designated representative. Anyone other than the squadron commander conducting the certification debriefs the squadron commander and/or operations officer on the results and any recommendations.

6.5.3. Ground Training:

6.5.3.1. **DOT Brief.** Prior to the pilots first flight in the program, 466 FS/DOT briefs the upgrader on all prerequisites and AFORMS products pertinent for flight leads.

6.5.3.2. Briefings from a squadron instructor (see DOK for FLUG briefing guide) include:

6.5.3.2.1. **Academics.** Flight lead academics include the flight lead mission guide (paragraph 6.5.5. this section).

6.5.3.2.2. **Computers.** Use of weapons computers for mission planning.

6.5.3.2.3. **Printouts.** Weapons requirements computer printouts.

6.5.3.3. **Squadron Commander Briefing.** After the certification flight, the squadron commander briefs the new flight leads on their responsibilities, duties, authority, and limitations if any.

6.5.4. Flight Training:

6.5.4.1. **Sorties.** Listed below are the sorties to be flown by upgrading flight leads. They may be flown in any order as aircraft/configuration capability allows, and may be repeated to achieve desired proficiency. Two formation takeoffs and landings as the lead aircraft are required. Four-ship air refueling is required (fewer than four-ship refueling requires approval from the operations officer). The air refueling and formation takeoffs and landings may be accomplished on any mission as long as the requirements met.

6.5.4.2. **Mission Scenarios:**

6.5.4.2.1. **FL-1** (2 x F-16, 1v1 offensive BFM) CT profile for BFM-1 is used.

6.5.4.2.2. **FL-2** (2 x F-16, 1v1 defensive BFM) CT profile for BFM-2 is used.

6.5.4.2.3. **FL-3** (2 x F-16, 1v1, high aspect BFM) CT profile for BFM-3 is used.

6.5.4.2.4. **FL-4** (3/4 x F-16, 2v1/1+1, offensive and defensive (D) ACM) Combine CT profiles (D)ACM-2 and (D)ACM-3.

6.5.4.2.5. **FL-5** (4 x F-16, 2v2, sweep vs sweep intercepts) CT profile (D)A1-2 is used.

6.5.4.2.6. **FL-6** (4 x F-16, 2v2, point defense vs sweep) CT profile (D)ACT-3 is used.

*6.5.4.2.7. **FL-7** (4 x F-16, 4vx, area defense vs sweep) CT profile (D)ACT-4 is used.

6.5.4.2.8. **FL-8** (4 x F-16, conventional weapons delivery) CT profile SA-1 is used.

6.5.4.2.9. **FL-9** (2 x F-16, night conventional weapons delivery) CT profile NSA-1 is used.

6.5.4.2.10. **FL-10** (2/4 x F-16, surface attack tactics, low/medium threat) CT profile SAT-1, Strategic Attack, is used.

6.5.4.2.11. **FL-11** (4 x F-16, surface attack tactics, high threat) CT profile SAT-2, Air Interdiction, is used.

6.5.4.2.12. **FL-12** (4 x F-16, checkered flag scenario surface attack tactics checkride) CT profile SAT-5 is used.

NOTE: This certification flight includes a realistic cross section of the mission(s) that the flight lead is expected to lead.

6.5.5. Upgrade Flight Lead Mission Planning Guide:

6.5.5.1. Flight Lead Responsibilities:

6.5.5.1.1. **Pre-mission Planning.** Determine qualifications of flight members; mission requirements; GCI coordination frequencies; IFF, AAR, and scenario; aircraft configuration; weather, airspace reservations; range schedule; prepare documentation and computerized mission materials if required.

*6.5.5.1.2. **Mission Planning References.** MCM 3-1V2 , MCI 11-F16V3, 419 FWI 11-1, AFFTCR 55-18 , FCF and CAPS.

6.5.5.2. **Briefing.** Use appropriate briefing guides and visual aids. Cover all items for assigned mission - think SAFETY. Discuss mission objectives and special interest items. Allow time for element briefings. Ensure wingman responsibilities are understood--WX, emergencies, degraded systems, etc. Stress flight discipline. Involve other flight members and tailor the briefing to the least experienced member. Review objectives at the end of the briefing. Adjust step, start, and takeoff times if additional briefing time is required to cover essential information.

6.5.5.2.1. **In Flight.** Accomplish the mission safely. Exercise decisive control of the mission at all times. Make on-the-spot corrections when needed. Report deviations/problems immediately. Think and plan ahead. If you doubt the legality or discretion of a particular course of action, don't do it! If you have questions about anything, ask the operations officer or commander BEFORE YOU FLY. Be keenly aware of what other flight members are doing at all times, and adjust mission content/events accordingly. Do not get so engrossed in what others are doing that you put yourself in a undesired situation.

6.5.5.2.2. **Debrief.** Prepare notes/tapes prior to beginning debrief. Exercise control. Cover deviations from the plan. Solicit discussion. Review performance based on briefed objectives. Complete documentation.

6.5.5.2.3. **Common Flight Lead Errors.** Insufficient knowledge of flight members abilities and their requirements. Crowding too much into a mission. Not staying ahead of the situation.

6.6. Instructor Pilot Upgrade Training:

6.6.1. **General.** Conduct this program as prescribed in MCI 11-F16V1 and this instruction. The squadron commander or operations officer selects highly qualified flight leads who demonstrate sound judgment, technical knowledge, skill, ability to instruct, and experience. Upon completion of a stan/eval check as prescribed in AFI 11-408, ACC Sup 1, the upgrading instructor pilot (UIP) is certified by the 419 operations group commander as an instructor.

6.6.2. General Instructions:

6.6.2.1. **Hour Requirements.** For entry into this program, the pilot must be a flight lead, and meet MCI 11-F16V1 entry requirements (as waived).

6.6.2.2. **Ground Training.** Accomplish ground training as required prior to flight as an UIP.

6.6.2.3. **MTT Training.** MTTs are not prerequisites for flights, but upgrades should accomplish MTTs prior to instructing in the MTT.

6.6.2.4. **Deviations.** Consistent with flying safety, the squadron commander or operations officer may authorize deviations to the training syllabus to adjust for unusual weather, local scheduling difficulties, upgrader progress, or previous experience. It is ideal, however, to progress the upgrader through each block before progressing to the other (that is surface attack then air-to-air). The squadron commander or operations officer notifies 466 FS/DOT of the specific program who then annotates the program in the upgrader's training folder.

6.6.2.5. **Timeliness.** The program progresses in a manner that allows the pilot to progress through training with no long-term lapses between flights. The operations officer adds proficiency sorties as necessary based upon his judgment as to each individual's ability to meet the demands of the program after a lapse of flying. The pilot may also request additional sorties.

6.6.2.6. **Leadership.** The upgrader briefs, leads, and debriefs all UIP missions.

6.6.2.7. **Supervision.** IP upgraders require the supervision of an IP on all flights.

6.6.2.8. **Selected Deviations.** Normally, other members of the flight should not be receiving an instructional upgrade mission. However, deviations are permitted with squadron commander or operations officer approval.

6.6.2.9. **Grade Sheet.** Complete an instructor upgrade grade sheet for all upgrade missions. An overall grade of two is required and all mission objectives require the same minimum level. Use the instructor pilot upgrade worksheet for grade folder documentation for all ground and flying training accomplishments.

6.6.2.10. **Proficiency.** Instructional proficiency is recognized as highly subjective, but is evaluated according to the upgrader's ability to instruct and conduct IQT/MQT/CT training with an IQT/MQT/CT upgrader of normal experience entering the unit.

6.6.2.11. **Certification.** After pilots complete their instructor flight evaluation and prior to performing duties as an instructor, the instructor upgrade program worksheet and **AF Form 8, Certificate of Aircrew Qualification**, must be signed by the operations group commander or designated representative.

6.6.2.12. **Timely Completion.** Circumstances may preclude timely completion of all instructor upgrade requirements such as AAR, NAI, transition, and the like. In this event, the operations officer may authorize limited instructor duties provided a flight evaluation and all other course criteria are satisfactorily completed. These limitations are annotated on the instructor's certification forms. Prior to instructing in non certified areas, the individual must receive proper training, evaluation, and certification.

6.6.3. **Ground Training (419 FW/DOK).** Instructor academics consist of programmed texts and handouts (if available), video tapes and briefings on instructor techniques/procedures, principles of instruction, and conduct of briefings. (See DOK for IPUG briefing guide.) Areas covered include the following:

6.6.3.1. Transition (given only if the UIP is to instruct in IQT).

6.6.3.2. Surface attack.

6.6.3.3. Air-to-air.

6.6.3.4. Principles of instruction.

6.6.3.5. Conduct of flight briefings.

6.6.3.6. Conduct of special academic presentations.

6.6.3.7. Conduct of flight/techniques for airborne instruction.

6.6.3.8. Conduct of flight debriefings.

6.6.3.9. Student evaluations/grade folder review and preparation.

6.6.4. **Flight Training:**

6.6.4.1. Backseat landings need only be flown by those UIPs who are instructing in IQT/REQUALIFICATION.

6.6.4.2. **Sortie Flow.** Phases may be flown as aircraft/configuration capabilities allow.

6.6.4.3. **Specialty Sorties.** Night Transition, and Maverick are flown when assets/scheduling allows. AAR may be flown on any mission.

6.6.4.4. **Mission Scenarios:**

6.6.4.4.1. **MTT-108.** See chapter 7 for profile.

6.6.4.4.1.1. **IP-1** Day Transition/ATM. MTT-108. (Aircraft: ½ x F- 16, time: 1.5; crew: UIP/IP. configuration: clean/CNTR tank, AIM 9M, AVTR, CTVS)

6.6.4.4.1.1.1. **Mission Objectives.** Demonstrate instructor capabilities and instruct a day transition, advanced tactical maneuvers sortie. Demonstrate local area and advanced handling maneuvers knowledge. Demonstrate knowledge and capability with EEGS gunnery and EEGS exercises. Execute a proper instructional debrief.

6.6.4.4.1.1.2. **Specific Mission Tasks.** Briefing; take-off; weapons system checks; rollslides; advanced handling maneuvers; 1x4000, 6000, 5000 EEGS gunnery sets; local area demo; formation work; instrument procedures/visual patterns/SFO landing, AGSM assessment.

*6.6.4.4.1.2. **IP-2** Night Transition (Aircraft: ½ x F- 16, time: 1.5; crew: UIP, IP. configuration: clean/CNTL tank, AVTR, CTVS).

*6.6.4.4.1.2.1. **Mission Objectives.** Demonstrate instructor knowledge for night operations/basic formation/NAAR and night AIM 120 and AIM 9M intercepts. Intercept switchology, techniques and weapons specifics are discussed.

*6.6.4.4.1.2.2. **Specific Mission Tasks.** Briefing; take-off; radar trail departure, join up; tanker rendezvous; NAAR; AIM 120 and AIM 9M intercepts; rejoin, RTB ASLAR; instrument approaches; full stop landing; debrief.

6.6.4.4.1.3. **IP-3** Offensive BFM. (Aircraft 2 x F-16, time: 1.3; crew: UIP, IP. configuration: Clean/CNTL tank, AIM 9M, AVTR, CTVS)

6.6.4.4.1.3.1. **Mission Objectives.** Demonstrate instructor knowledge and capability in offensive BFM. Instruct offensive BFM to include turn circle entry, energy control, weapons/guns parameters, separations. Deny a valid guns kill in flight by flying instructor level defensive BFM.

6.6.4.4.1.3.2. **Specific Mission Tasks.** Briefing; formation take-off; weapons systems check; ranging; perch set ups (3000, 6000, 9000) for offensive BFM; rejoin; rollslides; formation landing, AGSM assessment.

6.6.4.4.1.4. **IP-4** Defensive BFM (Aircraft 2 x F-16; time: 1.3; crew: UIP, IP. configuration: clean/CNTL tank, ECM pod, AIM 9M, AVTR, CTVS)

6.6.4.4.1.4.1. **Mission Objectives.** Demonstrate instructor knowledge and capability in defensive BFM. Instruct defensive BFM to include energy control, lift vector control, tactical game plans, weapons/guns defense and separation/reversals. Control/kill the defensive fighter inflight by flying instructor level offensive BFM.

6.6.4.4.1.4.2. **Specific Mission Tasks.** Briefing; formation take-off; weapons systems checks; ranging; defensive perch sets (3000, 6000, 9000); rejoin; rollslides; formation approach and landing; debriefing, AGSM assessment.

6.6.4.4.1.5. **IP-5** High Aspect BFM (Aircraft: 2 x F-16; time: 1.3; crew: UIP, IP. configuration: clean/CNTL tank, AIM 9M, AVTR, CTVS)

6.6.4.4.1.5.1. **Mission Objectives.** Demonstrate instructor knowledge and capability in high aspect BFM. Instruct high aspect BFM to include lead turn geometry, energy control, lift vector control. Tactical game plans, weapons parameters and separations. Control/kill or separate inflight by flying instructor level high aspect BFM.

6.6.4.4.1.5.2. **Specific Mission Tasks.** Briefing; SSTO; weapons checks; ranging; butterfly high aspect BFM SETS; rejoin, recovery to initial; UIP chase OVHD and SFO; split, visual pattern to full stop; debriefing, AGSM assessment.

6.6.4.4.1.6. **IP-6** (D)ACM. (Aircraft: 3/4 x F-16; time: 1.3; crew: UIP, IP. configuration: clean/CNTL tank, AIM 9M, AVTR, CTVS)

6.6.4.4.1.6.1. **Mission Objectives.** Demonstrate tactical ability and instructor knowledge in ACM maneuvering. Instruct ACM maneuvering to include fighter roles, weapons parameters, communications, tactical game plans, entries and separations. Control the flight, fly instructor level BFM/ACM to achieve a AIM 9M kill on the Bandit or separate.

6.6.4.4.1.6.2. **Specific Mission Tasks.** Briefing; take-off; weapons system checks; 2v1 or 2v1+1 butterfly perch; intercepts to engagements; rejoin; UIP chase OVHD and SFO; split, visual pattern to full stop; debriefing, AGSM assessment.

*6.6.4.4.1.7. **MTT-109.** See chapter 7 for profile.

6.6.4.4.1.8. **IP-7** AMRAAM (D) AI (Aircraft 4 x F-16, time: 1.3; crew: UIP, IP, pilot. configuration: clean/CNTL tank, AIM 9M, AVTR, CTVS) GCI requested.

6.6.4.4.1.8. 1. **Mission Objectives.** Demonstrate instructor level knowledge in AIM 120 launch and leave employment. Instruct AIM 120 employment in relation to cap vs sweep scenario, including cap considerations, weapons envelopes, switchology, tactical game plans. Control the flight to achieve valid AIM 120 kills while maintaining mutual support against all aspect threats.

6.6.4.4.1.8. 2. **Specific Mission Tasks.** Briefing; element take-off; weapons system checks; cap; AIM 120 intercepts; rejoin, RTB formation approach and landing, AGSM assessment.

6.6.4.4.1.9. **IP-8** 2vX(D)ACT (Aircraft 4 x F-16, time: 1.3; crew UIP, IP, Pilot. configuration: clean/CNTL tank, AIM 9M, AVTR, CTVS) GCI requested.

6.6.4.4.1.9.1. **Mission Objectives.** Demonstrate tactical ability and instructor knowledge in cap vs sweep (D) ACT. Instruct air combat maneuvering to include cap considerations, ID constraints, weapons envelopes, switchology, communication and tactical objectives while maintaining mutual support and achieving valid weapons parameters.

6.6.4.4.1.9.2. **Specific Mission Tasks.** Briefing; element take-off; weapons systems checks; 2vX cap vs sweep employment, (EID, VID, Heater) sets; rejoin, formation approach; split, visual approach and landing; debrief, AGSM assessment.

6.6.4.4.10. **MTT-110.** See chapter 7 for profile.

6.6.4.4.11. **IP-9** Surface attack SA (Aircraft: 2/4 x F-16; time: 1.4; crew: UIP, IP, pilot. configuration: external tank(s), 6xBDU33, 20MM, AVTR, CVTS)

6.6.4.4.11.1. **Mission Objectives.** Demonstrate instructor level knowledge in surface attack conventional weapons employment. Instruction includes: weapons employment systems, switchology, symbology, bomb fall line relationships, range pattern, range events, restrictions, regulations and bombing techniques. Demonstrate inflight ability in conventional range deliveries and flight control.

6.6.4.4.11.2. **Specific Mission Tasks.** Briefing; take-off; weapons system check; fence check; LATN, LATF (if desired); weapons deliveries using curvilinear and pop-up patterns; UIP will chase one pop-up pattern; rejoin recovery and landing; debriefing, AGSM assessment.

*6.6.4.4.12. **IP-10** Night Surface attack SA (Aircraft: 2 x F-16; time: 1.4; crew: UIP, IP, pilot. configuration: external tank(s), 6xBDU33, 20MM, AVTR, CVTS)

*6.6.4.4.12.1. **Mission Objectives.** Demonstrate instructor level knowledge in night surface attack conventional weapons employment. Instruction includes: weapons employment systems, switchology, symbology, bomb fall line relationships, range pattern, range events, restrictions, regulations and bombing and maverick delivery techniques. Demonstrate inflight ability in conventional range deliveries and flight control.

*6.6.4.4.12.2. **Specific Mission Tasks.** Briefing; trail departure; night formation; night weapons delivery patterns; rejoin, recovery, and landing; debriefing.

6.6.4.4.13. **IP-11** Surface Attack Tactics. (Aircraft: 2/4 x F-16; time: 1.5; crew: UIP, IP, pilot. configuration: external tank(s), 6xBDU33, 6xMK82/2xMK84, 20MM, AVTR, CTVS)

6.6.4.4.13.1. **Mission Objectives.** Demonstrate instructor level knowledge in medium/high altitude tactics, weapons employment and threat reactions. Instruction includes weapons employment, switchology, air-to-surface and air-to-air threat reactions. AIM 120 and AIM 9M employment in a VID scenario. Air-to-surface tactics and weapons delivery are addressed to include instructional techniques and real world employment considerations. Demonstrate inflight instructional ability, tactical ability and flight control.

6.6.4.4.13.2. **Specific Mission Tasks.** Briefing; flight take-off; weapons system check, fence check; LATF/LATN (if desired); medium/high altitude weapons employment on first look SAT targets; rejoin, battle damage check; recovery and landing; debriefing, AGSM assessment.

6.6.4.14.7. **IP-12 Surface Attack Tactics** (Aircraft 2/4 x F-16; time: 1.5, crew: UIP, IP, pilot. configuration: external tank(s), 6xBDU33/MKx82/2xMK84, 20MM, AVTR, CTVS)

6.6.4.4.14.1. **Mission Objectives.** Demonstrate instructor level knowledge in low altitude, high threat air-to-surface tactics. Instruction includes low-altitude threat reactions, AIM 120 employment in a VID scenario. Weapons employment tactics, delivery specific and air-to-surface systems and switchology are addressed. Demonstrate inflight instructional ability, tactical ability and inflight control.

6.6.4.4.14.2. **Specific Mission Tasks.** Briefing; take-off; weapons systems checks; fence check; LATF/LATN; coordinated low-altitude attacks, reattack options; threat reactions; rejoin, battle damage check; recovery, landing; debriefing, AGSM assessment.

*6.6.4.4.15. **MTT-111.** See chapter 7 for profile.

6.6.4.4.16. **IP-Check** (Aircraft: 2/4 x F-16; time: 1.5; crew: UIP, SEFE, MP. configuration: exterior tank(s), 6xBDU33/MK82/2xMK84, 20MM, AVTR, CTVS) (unit mission scenario)

6.6.4.4.16.1. **Mission Objectives.** Effectively brief, lead, debrief a unit mission scenario. Demonstrate instructional ability, F-16 systems knowledge, and threat capabilities, AGSM assessment.

6.6.4.4.16.2. **Specific Mission Tasks.** Brief; take-off; weapons system check; execute planned scenario; rejoin, recovery, landing; debrief.

6.7. Supervisor of Flying (SOF) Certification. Accomplish this training as prescribed in MCI 11-463 and 419FW supplement.

***6.8. ASLAR Training:**

6.8.1. **General.** Aircraft Surge, Launch and Recovery Procedures are established at some bases to expedite the flow of a high volume of aircraft in a compressed period of time. All pilots must keep in mind that the following are guidelines for conducting ASLAR at Hill AFB. General war tasking at deployed locations will no doubt require flexibility; however, basic ASLAR procedures should remain unchanged.

6.8.2. **Training.** Previous qualification in ASLAR will qualify an incoming pilot for ASLAR operations at Hill AFB (with operations officer approval). If not previously qualified, the checkout is part of the MQT program(BFM-2). A review AFI 13-214, Aircraft Surge Launch and Recovery (ASLAR) Aircrew Procedures, which is non-applicable is required in the MQT Program. Lack of ASLAR certification does not prevent advancement to MR status. 466FS/DOT maintains initial and continuation training records for assigned and attached pilots. Continuation Training will be in accordance with the GCC tasking message and MCI 11-F16v1.

6.8.3. Local Considerations.

6.8.3.1 **Elements.** A Four-ship splits into two-ship elements and attempt to get ten NM spacing.

6.8.3.2. **Speed.** Flight leads fly 300 KCAS unless directed to do otherwise by the controlling agency.

6.8.3.3. **Drag/Decel.** In accordance with the ASLAR IAP if available, if not use the following procedure: Wingman drag at 18 miles, flight leads decel at 13 miles, establish final approach speed at 4 miles.

*6.9. Killer Scout Upgrade Training:

6.9.1 **General.** This program is designed to prepare designated pilots to employ in Killer Scout (KS) Operations as prescribed in MCI 11-F16V1 and this instruction. The squadron commander selects highly qualified pilots for this specialized certification based on their experience, judgment, knowledge, and skill. Upon completion of this program the pilot is able to control as many groups of fighters as his judgment dictates.

6.9.2 General Instructions.

6.9.1. **Entry Requirements.** Minimum entry requirement for a KS wingman is MR/MC. Minimum entry requirement for a KS flight lead is MR/MC two-ship flight lead.

6.9.2. **Ground Training Requirements.** Pilots will receive KS academics prior to the start of flying training. Academics will follow the KS Handbook and be taught a KS qualified flight lead and a Ground Liaison Officer (if available).

6.9.3. **Killer Scout (KS) Program Administration.** Qualification is retained with aircraft qualification. KS sorties may count towards air-to-surface and/or SAT with FAC sortie requirements for those qualified to perform the KS mission. Previously qualified KS pilots, A-10 pilots, and Forward Air Controllers can have selected portions of the upgrade program waived at the discretion of the SQ/CC.

6.9.4. **Supervision.** At least one squadron supervisor must be KS qualified. The squadron CC will determine the level of supervision required for the initial KS flying training.

6.9.5. **Timeliness.** The program will progress in a manner that allows the pilot to accomplish training with no long term lapses between flights. The operations officer will add proficiency sorties as necessary to overcome lapse of flying proficiency problems. Each pilot may request additional sorties.

6.9.6. **Gradesheet.** The instructor pilot will complete a KS gradesheet for all upgrade missions. A minimum grade of two is required for all mission requirements.

6.9.7. **Sortie Sequence.** The following sorties will be flown in sequence. KS wingmen require only KS-1 and KS-3. KS flight leads require KS-1, KS-2, and KS-3. Mission elements from more advanced missions may be introduced during KS-1 at the discretion of the flight lead depending on student proficiency. KS-3 may be waived if recommended by the IP and approved by the squadron commander.

6.9.8. **Mission Scenarios.**

6.9.8.1. **KS-1** Introduction to KS Tactics for Wingman(1 F16/D or 2 F16C)

6.9.8.1.1. **Mission Objectives.** Introduce/practice KS procedures as a supporting wingman. Local area familiarization, KS mission planning, supporting fighter techniques, special equipment and avionics use. Prepare wingman for squadron CC evaluation.

6.9.8.1.2. **Specific Mission Tasks.** Assist in mission planning, understand killbox patrol/cap techniques, demonstrate mutual support, aid in target acquisition, assure accurate fighter briefing, perform target marking and defense suppression, assist in accurate BDA, AGSM.

6.9.8.1.3. **Special Briefing Items.** Frag interpretation, CBU-87, BDU-49/50, formation techniques, high and medium altitude kill box patrol, threat avoidance and suppression, binocular use, avionic marking, fighter briefing, multi-fighter control, target marking, BDA briefing, CSAR, wounded bird.

6.9.8.2. **KS-2.** Introduction KS Tactics for Flight Lead (2 F-16C/D and X fighters).

6.9.8.2.1. **Mission Objectives.** Introduce/practice KS procedures as a Flight Lead. KS mission planning, flight lead techniques, special equipment and avionics use. Prepare Flight Lead for squadron CC evaluation.

6.9.8.2.2. **Specific Mission Tasks.** Perform mission planning. Demonstrate proficiency in killbox patrol/cap techniques, mutual support, target acquisition, fighter briefings, target marking and defense suppression, BDA., AGSM.

6.9.8.2.3. **Special Briefing Items.** Frag breakout; weapons mix - CBU-87 and BDU-49/50; KS-KS coordination briefing; formation techniques in high and medium altitude kill box patrol; threat parameters, avoidance, and suppression; binocular use and avionic marking; fighter briefing, multi-fighter control and target v marking; BDA briefing, CSAR, wounded bird.

6.9.8.3. **KS-3.** KS Certification/Flight Lead or Wingman (2 F-16C/D and X fighters).

6.9.8.3.1. **Mission Objectives.** Demonstrate proficiency as Flight Lead or Wingman in Killer Scout tactical operations to Squadron CC or designated representative. (May be combined with KS-1 or KS-2).

6.9.8.3.2. **Specific Mission Tasks.** Same as KS-1 or KS-2.

6.9.8.3.3. **Special Briefing Items.** Same as KS-1 or KS-2.

***6.10. MC-1. Mission Commander Certification (X/X F-16C/D/Adversaries)**

6.10.1. **Mission Objectives.** Demonstrate the ability to plan, brief, lead, and debrief a joint/composite force employment package.

6.10.2. **Specific Mission Tasks.** Use CT profile CFT-1.

6.10.3. **Special Briefing Items.** Use CT profile CFT-1. At the successful completion of this mission the commander will certify the new Mission Commander by placing a letter of certification in the training folder and indicating qualifications on the letter of X's.

***6.11. LSI-1. Low/Slow Speed EID/VID Intercept Procedures (2 F-16/X fighters/helicopters).**

6.11.1. **Mission Objectives.** Expose pilots to problems associated with intercepting low/slow flying aircraft (rotary and fixed wing) for visual identification practice in a threat environment.

6.11.2. **Specific Mission Tasks.** Beyond visual range setups; radar setup, detection, sorting, recognition of low/slow situation, intercept geometry, visual identification, weapons employment, and separation, AGSM.

6.11.3. **Special Briefing Items.** Dealing with large speed deltas with target, terrain avoidance, visual recce, effect of low altitude on missile DLZ, tactical separation against armed helicopters.

6.12. **Night Vision Goggle Training.** Due to the recent notification of NVG acquisition by the 419FW, a locally tailored training course has not yet been formulated. In the meantime, training will be conducted IAW ACC Syllabus - Course No. F1600NVGPD, Night Vision Goggles Training Course.

Chapter 7

MTT Training Program

7.1. General. The objective of this program is to increase pilot proficiency and knowledge, and to supplement the procedures outlined in MCI 11-F16V1. During the MQT, CT, and upgrade programs, the Multi Task Trainer (MTT) provides radar employment proficiency training. During an IQT program, the MTT provides initial familiarization of tasks before performing them in the aircraft. During MQT and CT programs the MTT provides emergency procedures training not achievable in the aircraft. Due to the lack of an operational flight trainer (OFT), all SEPT requirements may be accomplished in the MTT or egress trainer (ET), also current guidance allows SEPT's to be accomplished in flying safety meetings and flight briefings.

7.2. Requirements:

7.2.1. Initial Qualification Training. IQT requirements are as prescribed in MCI 11-F16V1 and Chapter 3 of this instruction.

7.2.3. Continuation Training. CT requirements are as defined in MCI 11-F16V1, and chapter 5 of this instruction.

***7.2.3.1. SEPT Goal.** As a minimum, perform at least one emergency procedure missions each month. An EP evaluation given in conjunction with an instrument or mission qualification checkride in the MTT with a SEFE counts as a SEPT event.

7.2.3.1. Instructor Pilots. IPs may log up to 50 percent of their annual requirements while instructing SEPTs.

7.2.4. MTT Goal. Training as prescribed by MCI 11-F16V1 and the GCC tasking message.

7.3. Scheduling:

***7.3.1. Sortie Duration.** MTT sorties should be scheduled for 1.0 hour periods.

***7.3.2. UTA Schedule.** Tactical and Emergency Procedure MTT missions are formally scheduled on the fly day of the UTA. Individual pilots are free to accomplish and log MTT/SEPT events during the week on an as available basis.

7.4. Responsibilities:

7.4.1. Squadron Commander Duties. The fighter squadron commander ensures requirements are met.

7.4.2. **419OG/OGV.** The stan/eval officer provides the 466 FS/DOT with a copy of DOV trend analysis for incorporation into SEPT scenarios where appropriate.

7.4.3. **419 FW/SE.** The safety officer routinely scans reports for input to the SEPT scenarios. These are given to 466 FS/DOT for scenario incorporation. All pilots accomplish the SEPT by participating in the meeting or reviewing the video tape.

7.4.4. **466 FS/DOT:**

7.4.4.1. **Lesson Plans.** Develops and maintains the unit's MTT and SEPT training program including lesson plans and scenarios.

7.4.4.2. **Records.** Maintains all MTT/SEPT requirements in the AFORMS computer.

7.4.4.3. **New Pilots.** Briefs all new pilots on the MTT/SEPT program and location of the MTT/SEPT lesson plans and scenarios. Ensures that the MTT/ SEPT is scheduled, accomplished, and documented.

7.5. Documentation of Training:

7.5.1. **Forms.** 419 FW Form 6, **466 FS AFORMS Training Input Form**, is used to log MTT and SEPT accomplishment. These events are tracked in the AFORMS computer.

7.5.2. **MTT Utilization.** A logbook is maintained on the MTT to assess usage. All MTT time is logged accordingly, and AFORMS training sheets is complete.

7.6. Multi Task Trainer (MTT):

7.6.1. **General.** This is a non-evaluative training program with the objective of increasing proficiency in radar interpretation and utilization and weapons employment techniques. Currently MTT training is not directed by regulation but is a squadron generated endeavor to supplement the SEPT program and partially make up for the lack of a simulator.

*7.6.2. **Desired Goal.** The desired goal is for each pilot to accomplish MTT events as prescribed in MCI 11-F16V1 and the GCC tasking message as a minimum. No supervision is required for aircrews trained in MTT use, and extra MTT events are encouraged subject to MTT availability.

7.6.3. **466FS/DOT:**

7.6.3.1. Schedules pilots for one hour MTT missions during the UTA flying day.

7.6.3.2. Maintains the log at the MTT trainer and ensure the AFORMS computer products accurately track the MTT events.

7.6.4. Pilot Procedures.

7.6.4.1. **Accomplishment.** Pilots utilize the MTT trainer for at least one hour to meet event requirements.

7.6.4.2. Guidelines:

7.6.4.2.1. At least one-half hour should be spent with another MR pilot at the console generating appropriate air-to-air or air-to-ground scenarios.

7.6.4.2.2. The remainder of the period may be spent either by working on specific weak areas or by progress-sing to engagements against another pilot in the MTT.

7.6.4.3. **Documentation.** Pilots sign off the MTT log on the trainer to track MTT utilization. They also document their training on 419FW Form 6 for input into AFORMS sheets.

7.6.5. **Applicability.** This training program applies to all pilots assigned or attached to the 466 FS.

7.7. Situational Emergency Procedures Training (SEPT):

*7.7.1. **General.** This is a non-evaluative training program designed to increase pilot systems knowledge and maintain proficiency in dealing with system malfunctions. This training is directed by MCI 11-F-16V1, and the GCC tasking message, and is accomplished as prescribed in this instruction.

7.7.2. Requirements:

7.7.2.1. **Monthly SEPT.** SEPT Training is required once each month.

*7.7.2.2. **CW SEPT.** A CW MTT is required once each year. The training period is from July to June with most events taking place during the winter months.

7.7.2.3. **Emergency Procedure Evaluations (EPE).** EPE's with a SEFE in the MTT meets the requirements for SEPT.

7.7.3. Pilot Procedures:

7.7.3.1. **Location.** Pilots complete the SEPT in flight meeting during UTA training.

7.7.3.2. **Accomplishment.** Normally, one pilot verbalize the emergency situation/scenario while the other pilots perform switchology movement and talk about procedures and contingencies. Emphasis placed on proper analysis and switchology movement during each emergency and use of the checklist. Switching of roles is authorized.

7.7.3.3. **Documentation.** Upon completion of a SEPT, fill in the appropriate blocks on the 419 FW Form 6, and flight commanders ensure the pilots SEPT cards are completed properly. Individuals who miss UTA SEPT training completes a SEPT in a one on one briefing and fill out the appropriate paper work.

7.7.4. **Responsibilities:**

7.7.4.1. **419 FS/DOV.** Publishes SEPT scenarios/ guidelines which are placed in the SEPT book at the MTT. These are updated as required.

7.7.4.2. **419 FW/SE.** Safety officer routinely scans reports and documents for flying safety meeting scenarios. These are given to DOV for inclusion.

7.7.4.3. **466 FS/DOT.** Training officer ensures that SEPT's are scheduled, accomplished, and documented.

7.8. **Multi Task Trainer Scenarios:**

7.8.1. **MTT-100** (Cockpit familiarization and Introduction to MTT use, 1:1 Ratio, 1.0 hours.)

7.8.1.1. **Mission Objectives.** Introduce use of MTT and accomplish cockpit familiarization training. Upgrade pilot demonstrate proper checklist usage and sound understanding of aircraft normal procedures and operating limits.

7.8.1.2. **Specific Mission Tasks.** Introduce power-up, use, power-down, and security of the MTT. Cockpit interior checks (before start); normal engine start checks; emergency engine shut down procedures; normal ground operations procedures and squadron standards to include Up Front Control practice; engine shut down procedures; before leaving cockpit checks; normal cockpit egress.

7.8.2. **MTT-101** (Normal and Emergency Operations, 1:1 Ratio, 1.0 hours.)

7.8.2.1. **Mission Objectives.** Introduce and practice F-16C/BLK 30 specific normal and emergency procedures. Upgrade pilot demonstrate proper checklist usage and application of squadron standards during normal and emergency operations.

7.8.2.2. **Specific Mission Tasks.** Introduce engine start malfunctions; taxi malfunctions; ground emergencies; selected take-off emergencies; in-flight emergencies emphasizing F-110 and electrical malfunctions; ILS/LOC procedures; landing emergencies; low RCR landing procedures.

7.8.3. **MTT-102** (Instrument/Emergency Procedures Evaluation, 1:1 Ratio, 1.0 hours.)

7.8.3.1. **Mission Objectives.** Demonstrate sound knowledge of F-16C/BLK 30 specific normal and emergency procedures. Upgrade pilot applies proper checklist usage and application of squadron standards during normal and emergency operations.

7.8.3.2. **Specific Mission Tasks.** Emergency procedures evaluation are administered by a SEFE as a prerequisite to TR-4 Initial/Qualification checkride.

7.8.4. **MTT-103** (Tactical/Emergency Procedures Evaluation, 1:1 Ratio, 1.0 hours.)

7.8.4.1. **Mission Objectives.** Demonstrate sound tactical knowledge of F-16C/BLK 30 systems and weapons throughout normal and emergency procedures. Upgrade pilot applies proper checklist usage and application of squadron standards during normal tactical and emergency operations.

7.8.4.2. **Specific Mission Tasks.** Emergency procedures evaluation are administered by a SEFE as a prerequisite to the upgrade pilot's Mission/TAC checkride.

7.8.5. **MTT-104** (1 v. X Tactical Intercepts, 1:1 Ratio, 1.0 hours.)

7.8.5.1. **Mission Objectives.** Introduce/practice 1 v. X tactical intercepts from BVR set-ups. Demonstrate fundamental understanding of APG-68 radar modes, mechanization, and employment.

7.8.5.2. **Specific Mission Tasks.** Ground FENCE checks; Trail Dept.: Airborne FENCE/Systems checks; Multiple 1v1/1vX Tactical Intercepts to stern conversion; selected "tactical" EPs; RTB via ILS full stop. Emphasis of mission is on FCR employment techniques and display interpretation. AIM-120A employment may be introduced during stern conversions as proficiency allows. However, emphasis is on sound FCR employment to AIM-9 parameters.

7.8.6. **MTT-105** (1 v. X AIM-120 Tactical Intercepts, 1:1 Ratio, 1.0 hours.)

7.8.6.1. **Mission Objectives.** Introduce/practice 1 v. X AIM-120 tactical intercepts from BVR set-ups. Demonstrate sound understanding of APG-68 radar modes, mechanization, and employment. Upgrade pilot displays fundamental understanding of MCM 3-1 AIM-120 Shot/Kill Criteria and "in-flight" application of criteria. Develop/establish long-range missile employment pacing. Practice Squadron/MCM 3-1 Standard Communication.

7.8.6.2. **Specific Mission Tasks.** Alert scramble/combat T/O; airborne FENCE/systems checks; GCI check-in/brief; multiple 1v1/1vX AIM-120A tactical intercepts; selected "tactical" EPs; RTB via ILS full stop. Emphasis on AIM-120A symbology interpretation and application of MCM 3-1 Shot/Kill Criteria. The upgrade pilot should be cleared BVR to maximize AIM-120A employment with emphasis on Launch/Leave vs. AA-10A or equivalent threat. Demonstration of "lose cues" and invalid/unassessable shots will be accomplished.

7.8.7. **MTT-106** (Air-to-Ground Avionics Trainer, 1:1 Ratio, 1.0 hours.)

7.8.7.1. **Mission Objectives.** Introduce/practice F-16C/BLK 30 specific air-to-ground avionics use and A-G delivery procedures of free-fall munitions. Upgrade pilot demonstrates fundamental understanding of related UFC, SMS, FCC, and FCR delivery systems and degraded/emergency procedures.

7.8.7.2. **Specific Mission Tasks.** Normal ground avionics set-ups/FENCE checks; detailed review of SMS and control page to include Category 1, 2, 3, and 4 fuzed weapons; short "low level" practicing INS/FCC updates, FCR use/interpretation to include expanded modes, freeze, snowplow, and OAPs; multiple IP-TGT runs with emphasis on SOI/SOR awareness and employment via VRPCRP; selected "tactical" EPs; RTB via no NAVAID approach and landing.

7.8.8. **MTT-107** (Maverick Operations/ Employment Trainer, 1:1 Ratio, 1.0 hours.)

7.8.8.1. **Mission Objectives.** Introduce/practice F-16C/BLK 30 specific AGM-65 operations and tactical employment techniques. Upgrade pilot demonstrates knowledge of AGM-65 loading, power-up, and boresight. Delivery techniques and tactical application are introduced and practiced.

7.8.8.2. **Specific Mission Tasks.** Normal ground avionics set-up/FENCE checks; AGM-65 power-up and boresight procedures; multiple IP-TGT runs practicing all employment modes with emphasis on SOI/SOR management and proper AGM aiming techniques; selected "tactical" EPs and degraded employment operations; RTB via TCN approach and landing.

7.8.9. **MTT-108** (MTT Instructor Operations/ Normal and Emergency Procedures Trainer, 1:1 Ratio, 1.0 hours.)

7.8.9.1. **Mission Objectives.** Introduce/practice with MTT instructor operating station (IOS). Upgrade instructor demonstrates proper power-up/down procedure knowledge and the ability to manipulate the IOS to provide varying configurations, EPs, and instrument conditions. Upgrade instructor also exhibits sound debriefing skills for MTT missions. Emphasis of the mission is to ensure the upgrading IP possesses the ability to provide a quality MTT-100/101 mission.

7.8.9.2. **Specific Mission Tasks.** Review mission objectives and tasks for MTT-100/101; Power-up MTT; select "canned" mission/initial condition; modify MTT configuration; select and "run" various EPs to a logical conclusion; clear active EPs and direct cockpit switch actions; select/create various instrument meteorological/runway conditions; position MTT for instrument approach and landing; power-down MTT; debrief mission events.

7.8.10. **MTT-109** (MTT Instructor Operations/Air-to-Air Procedures Trainer, 1:1 Ratio, 1.) hours.)

7.8.10.1. **Mission Objectives.** Introduce/practice with MTT IOS operations for Air Intercept MTT missions. Upgrade instructor demonstrates proper application of air-to-air capabilities of the MTT and sound debriefing skills. Emphasis of the mission is to ensure the upgrading IP possesses the ability to provide a quality MTT-104/105 mission.

7.8.10.2. **Specific Mission Tasks.** Review mission objectives and tasks for MTT-104/105; select "canned" mission/initial condition; load appropriate MTT configuration; direct/observe ground/airborne FENCE checks via IOS monitoring screens; provide multiple 1 v 1, 1 v 2, and 1v x intercepts; practice "take control" function of bandit(s) and maneuver bandit(s) to provide desired learning objectives for pilot in cockpit; present selected "tactical" EP to a logical conclusion; provide vectors to ILS and monitor approach via IOS; debrief mission events.

7.8.11. **MTT-110** (MTT Instructor Operations/Air-to-Ground Procedures Trainer, 1:1 Ratio, 1.0 hours.)

7.8.11.1. **Mission Objectives.** Introduce/practice with MTT IOS operations for air-to-ground MTT missions. Upgrade instructor demonstrates proper application of air-to-ground capabilities of the MTT and sound debriefing skills. Emphasis of the mission is to ensure the upgrading IP possess the ability to provide a quality MTT-106 mission.

7.8.11.2. **Specific Mission Tasks.** Review mission objectives and tasks for MTT-106; select "canned" mission/initial condition; load various MTT configurations and exercise the SMS/CNTL function for each fuze category weapons and SMS fuzing selection; position MTT for multiple IP-TGT runs and direct use of INS/FCC updates, FCR use/interpretation, and delivery systems; provide selected "tactical" EP to a logical conclusion; position MTT for a no NAVAID approach and landing; debrief mission events.

7.8.12. **MTT-111** (MTT Instructor Operations/ Maverick Employment Trainer, 1:1 Ratio, 1.0 hours.)

7.8.12.1. **Mission Objectives.** Introduce/practice with MTT IOS operations for Maverick missions. Upgrade instructor demonstrates proper application of Maverick capabilities of the MTT and sound debriefing skills. Upgrade instructor also displays sound knowledge of AGM-65 tactical employment considerations. Emphasis of mission is to ensure the upgrading IP possesses the ability to provide a quality MTT-107, MAV-1, and MAV-2 upgrade rides.

7.8.12.2. **Specific Mission Tasks.** Review mission objectives and tasks for MTT-107 and (again, don't know the mission numbers of Maverick upgrade flights); select "canned" mission/initial condition; load appropriate AGM configuration; direct a AGM ground power-up sequence and boresight procedure; position MTT for multiple IP-TGT runs and instruct/monitor AGM employment from the IOS; provide selected "tactical" EP to a logical conclusion; position MTT for a TCN approach and landing; debrief mission events.

Chapter 8

SPECIALIZED ACADEMIC TRAINING

8.1. General. This chapter provides the direction for the overall pilot academic training program as prescribed in MCI 11-F16V1. It pertains to all F-16 pilots at the MR, MC, and BQ level. MC and BQ pilots are responsible to attend/review as many of the academic presentations as possible based on availability.

8.2. Program Objectives:

8.2.1. **Combat.** Prepare fighter squadron F-16 pilots for combat.

8.2.2. **Employment.** Promote effective F-16 employment through aircraft systems knowledge, tactically sound employment concepts, and munitions knowledge.

8.2.3. **Capabilities.** Provide pilots with mission essential training in intelligence, electronic combat capabilities, and area of operations data.

8.2.4. **Updated Information.** Provide pilots with the latest information and tactics on the F- 16.

8.3. Requirements:

8.3.1. **Tailored.** Training is tailored to fit the unit's needs.

8.3.2. **UTA Training.** Pilots receive intelligence/weapons and tactics/electronic combat/F-16 general academics each UTA. This ground school is conducted in sections rather than a concentrated all-day program. Not all subject areas necessarily have to be taught each UTA.

8.3.3. **Additional Training.** Additional training may be accomplished through individual study, combat mission profile planning, briefings, "threat of the day" briefs, and video presentations.

*8.3.4. **Videotaped Sessions.** UTA academic presentations are videotaped. MR pilots not in attendance are required to make up the academics using video or written material. Normally, this training is made up on the first day the pilot reports for duty following the UTA. Pilots will be grounded if they have not accomplished UTA makeup training by the end of the month.

*8.3.5. **Testing.** Testing of weapons and tactics and electronic combat academic material is accomplished to ensure important information is retained. A passing score of 85 percent corrected to 100 percent is required for successful completion. Any pilot failing to achieve this standard is given self-study material to enhance his knowledge of weak areas, and must successfully pass a retest. Intelligence personnel may also administer tests to determine if learning objectives have been met. Intelligence and electronic combat tests are produced from

the unit master question file. Weapons and tactics tests are designed to meet the requirements of MCI 11-F16V1.

8.4. Responsibilities:

8.4.1. 419 OSF/DOT:

8.4.1.1. Central point of contact for the pilot academic training program.

8.4.1.2. **Overall quality control** of all academic scheduling, presentations, testing, and documentation.

8.4.1.3. **Coordinates** as required with 466 FS/DOK and 466 FS/DOI for all weapons and intelligence-related ground training. Maintains close liaison with 466 FS/ DOT to ensure effective scheduling and documentation of academic presentations.

8.4.2. 419 OSF/DOK:

8.4.2.1. **Coordinates** with 419 .419FW/OSF/DOI and 466 FS/DOT and 466 FS/DOK on all weapons academic training matters. Coordinates with 466 FS/DOI on intelligence training topics when requirements arise for presentations which interface with intelligence.

8.4.2.2. **Manages** the weapons certification training program and EC training program as prescribed in MCI 11-F16V1, and all other weapons academics training.

8.4.2.3. Acquires **training aids** as required for quality academic presentations.

8.4.2.4. **Maintains** the weapons and tactics testing program as prescribed in MCI 11-F16V1.

8.4.2.5. **Lesson Material.** Due to the high experience level and low turnover rate of pilots, academic material is oriented toward developments in tactics and systems, test and exploitation data, and mission specific refresher topics in lieu of canned lesson plans.

8.4.2.6. Coordinates the **scheduling** of all weapons and tactics academics training and testing with 466 FS/DOT.

8.4.2.7. **Reviews** all tactics-related publications/ messages and ensures pertinent material is briefed/ taped at UTAs. Ensures the pertinent material is filed for individual pilot review.

8.4.3. 419 OSF/DOI:

8.4.3.1. Ensures pilot intelligence training requirements are met.

*8.4.3.2. Ensures training is related to potential wartime areas of operations and associated threats.

8.4.3.3. Provides 466 FS/DOT with a projected **annual intelligence training** schedule.

8.4.3.4. **Coordinates** with 466 FS/DOK on all briefings requiring joint presentation (such as threat knowledge and countering tactics).

8.4.3.5. Ensures **documentation** of training and testing is accomplished in AFORMS.

8.4.4. **466 FS/DOT:**

8.4.4.1. **Overall manager** of the squadron academics program.

8.4.4.2. **Publishes the UTA schedule** of ground training to be accomplished.

8.4.4.3. **Coordinates** with 466 FS/DOK on all weapons/electronic warfare-related presentations and with 466 FS/DOI for intelligence briefings.

8.4.4.4. **Documents** all academic training accomplishments into AFORMS.

8.4.4.5. **Coordinates** with 466 FS/DOS to ensure **makeup academics are scheduled**, accomplished, and documented.

8.4.5. **Academic Instructors:**

8.4.5.1. **Prepares lesson plans** as required.

8.4.5.2. **Coordinate** with training/weapons officer for course content, adequacy, visual aids, presentation type and time, test questions (if applicable), and currency.

8.4.5.3. **Preparation.** Are prepared to instruct.

8.4.6. **The pilot:**

8.4.6.1. **Makeup Training.** Seeking out and obtaining the required academic presentations for makeup.

8.4.6.2. **Makeup Training Documentation.** Ensures 466 FS/DOT is aware that makeup academics/testing has been accomplished and documented.

8.5. **Intelligence Training:**

8.5.1. **General.** Pilot intelligence training is conducted on those subjects listed in MCI 11-F16V1, and specific topics and areas of interest brought forth by pilots/intelligence personnel. This training is Category I training and must be accomplished to maintain MR status.

8.5.2. **Minimum Training Requirement.** Intelligence training is given as time permits on the UTA. All major areas are covered on an annual basis. Areas are evaluated by testing; including a joint intelligence/weapons and tactics written exam.

8.5.3. 466 FS/DOT **documents** training/testing in AFORMS.

8.5.4. Required subject areas are:

8.5.4.1. Threat capabilities.

8.5.4.2. Visual recognition.

8.5.4.3. Escape and evasion.

8.5.4.4. Collection and reporting.

8.5.4.5. **RWR.** (Document with intelligence. Actually EC training.)

8.5.4.6. **Countermeasures.** (Document with Intelligence. Actually EC training.)

8.5.4.7. **Current Intelligence.** Made available to pilots through briefings, read files, and threat boards.

8.6. Weapons and Tactics Training:

8.6.1. **MQT Training.** Training for MQT is listed in Chapter 4 of this instruction.

8.6.2. **Training.** The continuation training academics program (including weapons certification) includes but is not limited to the following subject areas.

8.6.2.1. Surface attack tactics (SAT).

8.6.2.2. Air-to-air tactics (A/A).

8.6.2.3. Basic fighter maneuvers (BFM).

8.6.2.4. Joint maritime operations (JMO).

8.6.2.5. Maverick.

8.6.2.6. F-16 weapons systems.

8.6.2.7. Munitions and fuses.

8.6.2.8. Electronic combat measures (ECM).

8.6.2.9. Enemy capabilities and tactics.

8.6.2.10. Weapons academic test.

8.6.2.11. Combat Edge Training.

8.6.3. **Documentation.** Document weapons continuation training in the AFORMS. Document IQT and MQT in individual training folders.

8.6.4. **Minimum Training.** Individuals who miss weapons and tactics lectures as a minimum complete the weapons and tactics academic test.

8.7. Electronic Combat Training. Accomplish training in this area as prescribed in MCI 11-F16V1, and para 5.6 of this instruction.

8.8. Aircraft General Training:

8.8.1. **General.** Academic presentations are given periodically in aircraft general subject areas to ensure pilot knowledge retention. Presentations are made when required due to changes performed on the aircraft.

8.8.2. Subject areas include but are not limited to the following areas:

8.8.2.1. Electrical system.

8.8.2.2. Flight controls system.

8.8.2.3. Hydraulic systems.

8.8.2.4. Engine.

8.8.2.5. Fuel system.

8.8.2.6. Avionics systems/interface.

8.8.2.7. F-16 Flight characteristics.

8.8.3. **Instructors.** Each flight is tasked periodically to make an aircraft general presentation.

***8.9. Flight Planning/Weapons Delivery Computer Training:**

8.9.1. **General.** The squadron has state-of-the-art flight planning and weapons delivery computer software. Pilots must be proficient in all capabilities of this asset as it is used for local training, deployments, and MPC operations.

8.9.2. **Training Method.** Hands on training is required. Initial training will be conducted during the MQT phase and continuation training will be given during UTA as software updates are received.

8.10. Additional Training:

8.10.1. **Guest Speakers.** Special academic presentations may be accomplished in any subject area by visiting experts. These experts may consist of higher headquarters personnel, company representatives/technical representatives, DoD personnel, fighter weapons school instructors, test and evaluation personnel, and foreign country personnel.

8.10.2. **Academic Content.** These presentations are geared to providing the wing with the most up-to-date information available.

*8.10.3. **Verification.** Pilot verification/certification is accomplished as prescribed in the 419 FW Checkered Flag Plan, Annex C.

8.11. Documentation:

8.11.1. **Attendance Noted.** All academic presentations are documented/dated and attendance noted.

8.11.2. **Monitor.** The 466 FS/DOT monitors the list of pilots requiring makeup training.

8.11.3. **Videotape Availability.** The 466 FS/DOT is responsible for ensuring the videotapes are available to pilots requiring academic/briefing makeup training.

8.11.4. **Documentation.** Attendance is maintained on the AFORMS system when possible. Otherwise, attendance rosters are kept manually.

Chapter 9

METRICS

*9.1 Goals and Metrics:

9.1.1. Ground Training:

9.1.1.1. **Goal.** Complete all Functional, General, and Awareness training as described in Chapter 2.

9.1.1.2. **Metrics.** Ground training Attendance Rosters verify that 100% of all pilots and support personnel receive required training. The AFORMS Computer System backs up the manual rosters for attendance and provides an automated tracking system to assure that 100% of all pilots meet academic currency requirements. Testing assures that all pilots meet the required subject matter knowledge standards and provide a basis for future academics to correct validated deficiencies.

9.1.2. Initial Qualification and Mission Qualification Training.:

9.1.2.1. **Goal.** Pilots complete all syllabus requirements described in Chapters 3 and 4 to the satisfaction of the instructor pilots, the SEFE, and the Commander.

9.1.2.2. **Metrics.** The Training Folder assures that 100% of each item required in each phase is completed to squadron standards. The Training Tracking Board provides a visual back-up to the Training Folder and the Syllabus assisting the schedulers to ensure that 100% of training requirements are completed in proper order, meeting the necessary currency requirements. Standardization/Evaluation Performance Criteria assures that the pilot meets 100% of the Instrument and Mission Qualification criteria established in AFI 11-408. Flight Records assures that 100 % of all pilots meet standards required by their flying time. Commander Assessment is described in para 9.2.7.

9.1.3. Continuation Training:

9.1.3.1. **Goal.** Pilots accomplish all required Graduated Combat Capability requirements and perform in all tasked squadron combat missions to the satisfaction of the Commander. The squadron goal for all pilots is to perform at GCC level "B" allowing training in the most advanced mission scenarios.

9.1.3.2. **Metric.** AFORMS Computer System provides an automated tracking system to assure that 100% of all pilots meet the requirements established by the GCC tasking message and maneuver and currency requirements established by MCI 11-F16V1. Standardization/Evaluation Performance Criteria assures that the pilot meets 100% of the Instrument and Mission

Qualification criteria established in AFI 11-408. Flight Records assures that 100 % of all pilots meet standards required by their flying time. Commander Assessment is described in para 9.2.7.

9.1.4. MTT/SEPT.

9.1.4.1. **Goal.** Pilots perform mission events and emergency procedures described in Chapter 7 to the satisfaction of the instructor pilots, the SEFE, and the Commander.

9.1.4.2. **Metric.** AFORMS computer system backs up the manual rosters for attendance and provides an automated tracking system to assure that 100% of all pilots meet GCC requirements. Standardization/Evaluation Performance Criteria assures that the pilot meets 100% of the Instrument and Mission Qualification criteria established in AFI 11-408. Commander Assessment is described in para 9.2.7.

9.1.5. Specialized Academic Training:

9.1.5.1. **Goal.** Complete Specialized Academic Training as described in Chapter 8.

9.1.5.2. **Metric.** Ground training Attendance Rosters verify that 100% of all pilots and support personnel receive required training. The AFORMS Computer System backs up the manual rosters for attendance and provides an automated tracking system to assure that 100% of all pilots meet academic currency requirements. Testing assures that all pilots meet the required subject matter knowledge standards and provide a basis for future academics to correct validated deficiencies.

***9.2. Measuring Devices:**

9.2.1. AFORMS.

9.2.1.1. **Accuracy.** The objectives of the AFORMS computer tracking system are to accurately track required events, and provide quality information for use in scheduling a training program that meets or exceed the requirements of MCI 11-F16V1 and other associated manuals, regulations, and instructions pertaining to ground and flying training. As the unit converts to the new system, the current system is maintained until the new system is activated and verified accurate. Every effort is made to minimize duplication with a high level of accuracy reliability maintained.

9.2.1.2. **Quality Products.** The AFORMS system should provide timely, easy to understand products that allows the squadron commander and designated representatives to administer an effective yet aggressive training program even if deployed.

9.2.1.3. **Alternate Systems.** Alternate tracking systems maintain the same program objectives as required.

9.2.2. **Flight Records.** 75OSS/OSCF maintains the master flight records for all pilots including flying time and all flying and ground training. Total flying time is used to establish experienced/inexperienced sortie requirements to meet target GCC goals.

9.2.3. **Training Folder.** Training folders contain training program summary sheets that measure the progress of the individual through the training program. The training folder also contains mission gradesheets that measure the quality of student performance.

9.2.4. **Training Tracking Board.** The Training Tracking Board measures the progress of the student through the training program.

9.2.5. **419OG/OGV.** Standardization/Evaluation performance criteria set forth in AFI 11-408 measures the quality of individual performance on MTT emergency and tactical evaluations; also on instrument and mission checkrides.

9.2.6. **Testing.** Standardization/Evaluation, Weapons, and Intelligence have testing programs to measure the extent of pilot knowledge.

9.2.7. **Commander Assessment.** All Metrics are established to assist the commander in his goal of attaining combat success by having a thoroughly trained squadron. The Commander will continually assess each pilots combat readiness through metrics, squadron exercises, feedback from OGV and squadron supervisors, and personal observation.

9.3. Responsibilities:

9.3.1. 466 FS/DOT:

9.3.1.1. Ensures DOF provides a current **product sheets** prior to the day's flying activities to the SOF, highlighting events, and currencies for flight lead, and pilots to review.

9.3.1.2. **Identifies** to the scheduler areas and events that are not being accomplished or lag the completion percentage expected for that time in the training cycle.

9.3.1.3. Ensures **reports are run** in a timely manner so that products are available in advance of required training.

9.3.1.4. **Runs special daily reports** as required when information is required for the effective scheduling of flying personnel.

9.3.1.5. **Coordination.** With 466 FS/DOK evaluates pilot accomplishments and recommends sorties and events to the scheduler and flight lead, and pilot to increase training in particular areas as appropriate.

*9.3.1.6. **Measuring Devices.** Maintain the Training Tracking Board and the Gradebooks.

9.3.2. 466 FS/DOK:

9.3.2.1. **Reviews computer products** to maintain an awareness of flying events being accomplished by pilots. Ensures maximum training is accomplished through effective use of documentation, scheduling, and training.

9.3.2.2. **Coordinates**, as required, with 466 FS/DOT and 466 FS/DOS to ensure any flying training anomalies are minimized/eliminated.

9.3.2.3. **Documentation.** Maintains weapons qualification scores on the weapons and tactics computer.

9.3.2.4. **Review Input Forms.** Reviews 419 FW Form 4, **Air-to-Ground Weapons Analysis Sheet** to ensure accuracy and completeness.

9.3.2.5. **Measuring Devices.** Properly puts to use all data accumulated through the use of 419 FW Form 4 to improve weapons deliveries. Tracks each aircraft and makes available to the pilots data on each aircraft as to where the aircraft bombs and strafes. Maintain test scores for the annual weapons test.

9.3.3. 419OG/OGV:

9.3.3.1. **Standards of Performance.** Assure all SEFE's are current on ACC required checkride performance criteria.

9.3.3.2. **Measuring Devices.** Measure pilot performance in MTT, instrument, and mission qualification evaluations.

9.3.4. Instructor Pilots:

9.3.4.1. **Standards of Performance.** Review Gradebook for student progress and syllabus for required performance standards.

9.3.4.2. **Measuring Devices.** Complete individual mission gradesheets and update training summary sheet. Report deviations to DOT for corrective action.

9.3.5. SOFs and Flight Leads:

9.3.5.1. **Reviews** the computer product sheets on the training board prior to the flight briefings.

9.3.5.2. **Requirements.** Determine what currencies and events are required by flight members involved in the day's activities.

9.3.3.3. **Event Accomplishment.** Attempt to accomplish events and currency requirements as required to satisfy either the requisite number of events or currencies.

9.3.3.4. **Maximize Training.** Plan mission profiles to maximize training for all flight members, and concentrate on those currencies and events that could result in the loss of MR status such as AAR, SA/SAT, ACBT, and weapons qualification.

*9.3.3.5. **Measuring Devices.** At the completion of the flight, ensure that all flight members properly fill out a 419 FW Form 4, (if applicable), the 419 FW Form 6, **F-16 AFORMS Personnel Training Form.**

9.3.6. All Pilots:

9.3.6.1. **Review** the computer product sheets prior to briefings to ascertain required currencies and events if these are unknown. Review the event sheets and determine which events are either lacking or completed so that quality use of flying time can be realized by accomplishing events not yet completed such as approaches, tactical events, and the like.

*9.3.6.2. **Measuring Devices.** Complete a 419 FW Form 6 at the completion of each flight, MTT, SEPT, or event listed on the 419 FW Form 6 or 419 FW Form 17.

9.3.6.2.1. **Completed Form.** Ensure all events accomplished are annotated on the 419 FW Form 6 or 17. All applicable areas should be marked appropriately with the event and sortie accomplished.

9.3.6.2.2. **Instrument events.** Special attention must be given to the instrument events section. Each pilot must accomplish the pro rated share of all penetrations and both types of approaches, HUD-off.

9.4. Ground Training Programs:

*9.4.1. **Measuring Devices.** All data for ground training is documented and entered in the AFORMS computer by 466 FS/DOT, operations system management, or other qualified computer operations personnel.

*9.4.2. **Individual Section Tracking.** All section chiefs continue to track a particular item/date that is unique to their functional area or not capable of being tracked through AFORMS. All nonflying, simulator, SEPT training accomplishments to be tracked on the AFORMS are documented on 419 FW Form 6, 419 FW Form 17 or have an AF Form 1522, AFORMS Additional Training Accomplishment Input, signed and submitted to DOT for entry into the computer. AFORMS data reports are then used by the various sections to centralize the record keeping process and validate current training and accomplishments.

9.5. Flying Training Programs:

9.5.1. **Measuring Devices.** All data for flying, simulator, and SEPT training is entered from the 419 FW Form 6 and 419 FW Form 17 by qualified computer operations personnel.

9.5.2. **Central Tracking.** Deployable AFORMS data reports are used to centralize the record keeping process.

9.5.3. **Update reports** weekly on all flying training requisites, maintain and display on the training board. Daily reports are made to evaluate a particular event currency or an individual's currencies and events remaining for use by supervisors as appropriate.

DAVID E. TANZI
Brigadier General, USAFR
Commander

ATTACHMENT 1**GLOSSARY OF REFERENCES**

- A1.1. AFD 11-3, *Life Support*
- A1.2. AFI 11-201, *Flight Information Publications*
- A1.3. AFI 11-205, *Aircraft Cockpit and Formation Flight Signals*
- A1.4. AFI 11-206, *General Flight Rules* (formerly AFR 60-16)
- A1.5. AFI 11-214, *Aircrew and Weapons Director Procedures for Air Operations*, and applicable ACC supplement.
- A1.6. AFI 11-301, *Life Support Program*
- A1.7. AFI 11-401, *Flight Management* (formerly AFR 60-1)
- A1.8. AFI 13-212V1, *Weapons Ranges*
- A1.9. AFI 13-214, *Aircraft Surge Launch, and Recovery Operations*
- A1.10. AFI 36-2209, *Survival and Code of Conduct Training*
- A1.11. AFI 36-2243, *Cockpit/Crew Resource Management Program*
- A1.12. AFI 91-202, *The US Air Force Mishap Prevention Program*
- A1.13. AFM 171-190V1, *Air Force Operations Resource Management System (AFORMS)*
- A1.14. ACCI 11-301, *Aircrew Life Support Program*
- A1.15. MCI 11-F16V1, *Pilot Training--F16 (Formerly MCR 51-50V8)*
- A1.16. MCI 11-F16V3, *Pilot Operational Procedures--F16, (Formerly AFRESR 55-116), and applicable supplements*
- A1.18. MC Handbook 11-F16V5, *F-16 Combat Aircraft Fundamentals--F16*
- A1.19. MCI 11-463/419FW Supplement, *Operations Supervision*
- A1.20. MCM 3-1Vol 2, *Threat Reference Guide and Countertactics*

A1.21. 419 FWI 11-202, *Incentive, Orientation, and Familiarization Flights, and Spouse Taxi Ride Programs*