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Encl: (1) FA-18 T&R MANUAL

1. Purpose. To publish standards and regulations regarding the training of FA-18 aircrew per the reference.

2. Information. Per reference (a), the Flight Leadership Standardization program has been added to this Manual. This program affects the Designation Tables and Instructor Requirements Tables on pages 10, 18, and 19. The Flight Leadership Standardization Evaluator Plan of Instruction (POI) has been added to paragraph 140. Flight Leadership POIs, beginning with Section Leader, are contained in paragraph 150, starting on page 103.

3. Recommendations. Recommended changes to this publication are invited, and may be submitted via the syllabus sponsor (MAWTS-1) and the appropriate chain of command to: Commanding General, Training and Education Command, Aviation Training Branch via e-mail (refer to <http://www.tecom.usmc.mil/atb/contacts.htm>) or the Defense Message System using the following plain language address: CG TECOM QUANTICO VA ATB.

4. Reserve Applicability. This Manual is applicable to the Marine Corps Total Force.

5. Certification. Reviewed and approved this date.

  
M. R. SPIESE  
By direction

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FA-18A/C/D T&R MANUAL

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**\* \* NOTE \* \***

CREW RESOURCE MANAGEMENT (CRM) AND OPERATIONAL RISK MANAGEMENT (ORM) FACTORS SHALL BE BRIEFED ON ALL FLIGHTS AND/OR EVENTS.

100. MARINE FIGHTER ATTACK SQUADRON (FA-18A/C) UNIT TEMPLATE, MISSION STATEMENT, UNIT CORE CAPABILITY, UNIT CORE COMPETENCY. Marine Aviation plays a crucial role in the MAGTF's ability to conduct Maneuver Warfare. The ultimate goal of Marine Aviation is to attain the highest possible combat readiness to support Expeditionary Maneuver Warfare while at the same time preserving and conserving our Marines and equipment. Embedded within our combat readiness is the ability to rapidly, effectively, and efficiently deploy on short notice and the ability to quickly and effectively plan for crises and/or contingency operations thereby ensuring Marine Aviation remains ready for combat when and where the need arises. The FA-18 T&R Manual represents the collaborative effort of FA-18 Subject Matter Experts who designed training standards to maximize the full combat capabilities of the FA-18 and its crew. These standards, intrinsic in the core competency section, describe and define unit capabilities and requirements necessary to maintain like-squadron proficiency in core skills and combat leadership. Training events are based on specific requirements and performance standards to ensure aircrew maintain a common base of training and depth of combat capabilities. Together, the T&R comprises a building block approach to ensure that trained aircrews remain ready, relevant, and fully capable of supporting the MAGTF commander.

1. VMFA Mission. Support the MAGTF Commander by destroying surface targets and enemy aircraft, day or night under all weather conditions during expeditionary, joint or combined operations.

2. Mission Essential Task List (METL)

- a. (UJTL TA 1.1.4) Conduct Sea and Air Deployment Operations
  - Maintain the capability to deploy and operate from naval shipping, advanced bases, and expeditionary airfields.
  - Maintain the capability to conduct extended range operations employing aerial refueling.
  - Perform organizational maintenance on assigned aircraft.
- b. (UJTL TA 3.2.1) Conduct Fire Support
  - Conduct Offensive Anti-Air Warfare.
  - Conduct Offensive Air Support.
- c. (UJTL TA 3.2.2) Conduct Close Air Support
  - Conduct escort of friendly ground forces.
  - Conduct Assault Support Escort.
- d. (UJTL TA 3.2.3) Conduct Interdiction Operations
  - Conduct armed reconnaissance.
  - Conduct Strike Coordination and Reconnaissance (SCAR).
- e. (UJTL TA 3.2.4) Conduct Joint Suppression of Enemy Air Defenses
- f. (UJTL TA 3.2.8) Conduct Air to Air Operations
  - Conduct Anti-Air Warfare.
  - Intercept and destroy enemy aircraft in conjunction with ground or airborne fighter control under all weather conditions.
  - Conduct self escort and escort of friendly aircraft and ground forces.
- g. (UJTL TA 3.3) Coordinate Battlespace Maneuver and Integrate with Firepower.
  - Conduct combined arms coordination and control operations.

3. Table of Organization. Refer to Table of Organization 8830 managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for FA-18A/C units. As of this publication date, FA-18A/C units are authorized:

Squadron  
12 aircraft  
19 Pilots

4. Core Capability. A core capable squadron is able to sustain 20 sorties on a daily basis during contingency/combat operations. The above sortie rates are based on a 1.4 hour average sortie duration and assumes 70 percent FMC aircraft and 90 percent T/O aircrew on hand. If unit FMC aircraft < 70 percent or T/O aircrew < 90 percent, core capability will be degraded by a like percentage. A core capable squadron is able to accomplish all tasks designated in the unit METL from a main base, expeditionary base, or carrier.

5. METL/Core Skill Matrix. FA-18A/C core/core plus skills directly support the METL as follows:

METL	CORE SKILLS											
	FAM	AAR	AS	NS	AA	LAT	CAS	AR	SCAR	AAW	SEAD	AI
a. Conduct Sea and Air Deployment Ops	X	X		X								
b. Conduct Fire Support	X	X	X	X	X	X	X	X	X	X	X	X
c. Conduct Close Air Support	X	X	X	X		X	X					
d. Conduct Interdiction Operations	X	X	X	X		X		X	X			
e. Conduct Joint Suppression of Enemy Air Defenses	X	X	X	X			X				X	X
f. Conduct Air to Air Operations	X	X		X	X					X		X
g. Coordinate battlespace maneuver	X	X		X								

CORE PLUS SKILLS

METL	E/CC	WAS	NS	ESC	AAW	LFE	FAC(A)
a. Conduct Sea and Air Deployment Ops	X	X	X				
b. Conduct Fire Support		X	X		X	X	X
c. Conduct Close Air Support			X	X			X
d. Conduct Interdiction Operations		X	X				
e. Conduct Joint Suppression of Enemy Air Defenses			X			X	
f. Conduct Air to Air Operations			X		X	X	
g. Coordinate battlespace maneuver			X				X

6. FA-18A/C Core Model Minimum Requirements (CMMR). CMMR is measured in terms of the minimum numbers of core skill proficient crews and minimum numbers of combat leaders per paragraphs a and b below:

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

CORE SKILL *CORE PLUS	FA-18A/C Unit CSP Requirements Pilots
FAM	12
AAR	12
AS	12
NS	12
AA	12
LAT	8
CAS	12
AR	12
SCAR	10
AAW	10
SEAD	6
AI	10
EC/Q* <sup>1</sup>	12
WAS* <sup>1</sup>	12
NS LOW*	6
ESC*	8
AAW*	4
LFE*	8
FAC(A)*	2

\* NOTE: Proficiency in core plus skills is not required to obtain unit CSP.

E/CQ and WAS are considered core plus for all squadrons not assigned to a carrier air wing (CVW). For CVW integrated squadrons, E/CQ and WAS become core skills from the beginning of the first at-sea training evolution of the applicable Fleet Response Training Program (F RTP) and cycled to 30 days post-deployment or the last day of the F RTP post-deployment sustainment period, whichever is later.

b. A standard FA-18A/C crew consists of 1 pilot. In order to be considered proficient in a core skill, an individual must attain and maintain proficiency in core skill events as delineated in (1) and (2) below.

(1) Events Required to Attain Individual CSP. To initially attain CSP in a core skill, a pilot must simultaneously have a proficient status in all of the core (200-300) T&R events listed in the table below for that core skill:

Individual CSP Attain Table												
	Skills						Missions					
FA-18A/C Pilot/WSO	FAM	AAR	AS	NS	AA	LAT	CAS	AR	SCAR	AAW	SEAD	AI
T&R event requirements to attain CSP	S200R 201R 202R	210R 211R	S230 S231 S232 S233 S234 235R 236R 237R 238R 239R 240 241 242R 243R	S250 251R 252 253R 254	260R 261R 262R 263R 264 265R S266 S267R 268R 269R 270	S280 281R 282	S290R 291R 292R S300 301R 302R 303	310R 311R 312R	320R 321R	S330R 331R 332R 333R 334R S335R 336R 337R 338R	S340R S341R 342R	S350R 351R 352R 353R 354R
R=Refresher POI event S=Event conducted in simulator												

(2) Events Required to Maintain Individual CSP. To maintain CSP, a pilot must maintain proficiency in all of the T&R events listed in the chart below for that core skill.

Individual CSP Maintain Table												
FA-18A/C Pilot	Skills						Missions					
	FAM	AAR	AS	NS	AA	LAT	CAS	AR	SCAR	AAW	SEAD	AI
T&R event requirements to maintain CSP	S200R	211R	237R	251R	260R	281R	292R	310R	320R	S330R	S340R	S350R
	202R		239R		261R		301R	311R	321R	331R	S341R	351R
			243R		262R		302R	312R		332R	342R	352R
					263R					333R		353R
					265R					334R		354R
										S335R		
										336R		
										337R		
										338R		

R=Refresher POI event  
S=Event conducted in simulator

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

Individual Core Plus Skills Attain Table							
FA-18A/C Pilot	E/CQ	WAS	NS	ESCORT	AAW	LFE	FAC(A)
T&R event requirements to attain Core Plus Skill proficiency	S400R	410R	430	440R	450R	470R	S480
	401R	411R	431	441R		471R	S481
	402R	412R	432R				482
	403R						483R
	404R						484
							485
							486
							487R
							488R
							489R
						490R	
						495	

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

R=Refresher POI event S=Event conducted in simulator							
Individual Core Plus Skills Maintain Table							
FA-18A/C Pilot	E/CQ	WAS	NS	ESCORT	AAW	LFE	FAC(A)
T&R event requirements to maintain CSP	401R	411R	432R	440R	450R	471R	483R
	402R	412R		441R			487R
	403R						489R
	404R						490R

R=Refresher POI event  
S=Event conducted in simulator

c. Minimum Combat Leader Requirements. At a minimum, in order to be considered Core Competent, a squadron must possess the following numbers of pilots with the listed flight leadership designations.

FA-18A/C	
FLT LD DESG	SQDN PILOTS
MSN CMDR	4
DIV LDR	6
SEC LDR	10

7. Qualifications And Designations

a. Qualification. A status assigned to personnel based on demonstration of proficiency in a specific skill. Specific criteria to achieve a qualification is delineated in this T&R manual. Upon successful completion of qualification criteria, commanding officers may issue an appropriate qualification letter for inclusion in the NATOPS jacket and APR. Aircrew do not lose a qualification as a function of refly factor for individual events. Loss of proficiency (delinquent refly factor) for all associated qualification events (events with measurable refly factor; '\*' refly factor events excluded) constitutes loss of that qualification. Re-qualification requires demonstration of proficiency. Re-qualification shall be achieved by successfully re-completing all R-coded events associated with the respective qualification listed in the FA-18A/C/D training tables (unless waived per paragraph 305 of the Aviation T&R Program Manual).

b. Designation. A status assigned to an individual based on leadership ability. A designation is a command specific, one-time occurrence and remains in effect until removed for cause. Specific designation requirements are delineated in the following tables. Commanders shall issue a designation letter to the individual upon the occasion of original designation, with appropriate copies for inclusion in the NATOPS jacket and APR.

c. Qualifications And Designations Tables. The tables below delineate the T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All stage lectures, briefs, squadron training and prerequisites shall be complete prior to completing final events. Qualification and designation letters signed by the commanding officer shall be placed in the NATOPS and APR jackets.

Qualification (TRACKING CODE)	Initial Event Qualification Requirements
NATOPS (600E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
INST (601E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
LAT QUAL (610E)	S280, 281, 282R
E/CQ (611/612)	S400R, 401R, 402R, 403R, 404R
ACM QUAL (613E)	260R, 261R, 262R, 263R, S264, 265R, S266, S267R, 268R, 269R, 270
NS QUAL (HI) (615E)	S250, 251R, 252, 253R, 254
NS QUAL (Low) (616E)	430, 431, 432R
FAC(A) (614E)	S480, S481, 482, 483R, 484, 485, 486, 487R, 488R, 489R, 490R

Designation (TRACKING CODE)	Designation Requirements
PMCF (619E)	IAW OPNAV 3710.7 and a designation letter signed by the commanding officer
SECTION LEAD (631E)	620E, 621E, 622E, 623E, 624E, S625E, S626E, 627E, 628E, 629E, 630E, 631ER. The prospective section lead shall be complete with all 200 and 300 level sorties prior to beginning section lead workup.
DIVISION LEAD (644E)	640E, 641E, 642E, 643E, 644ER
MISSION COMMANDER (652E)	650E, 651E, 652ER
FLSE	Per FA-18 Flight Leadership Program Model Manager requirements.
LAT(I) (513E)	IAW the MAWTS-1/NSAWC Course Catalog. * NSI (High) or NSI (Low) per MAWTS-1 Course Catalog.
ACT(I) (522E)	
NS(I)* (532E)	
FAC(A)(I) (542E)	
TOPGUN (660)	
MDTC (661)	
WTI (662)	

d. Instructor Requirements. A squadron should possess the following number of pilots with the listed instructor designations IAW MCO 3500.12 (WTTP). NSI in the following matrix refers to NSI (Low) for squadrons that are NS (Low) capable (lot XII and above aircraft), and NSI (High) for non-NS (Low) capable squadrons (lot XI and below aircraft). The squadron CO/XO instructor designations shall not count toward the following numbers:

FA-18A/C	
INSTRUCTOR DESIGNATION	SQDN Pilots
LATI	3
NSI	3
ACTI	4
FAC(A)I	1
WTI	2
LSO	3
MDTC/TOPGUN	2
FLSE	2

8. Currency and Proficiency

a. Currency. A control measure used to provide an additional margin of safety based on exposure frequency to a particular skill. It is a measure of time since the last event demanding that specific skill. Loss of currency does not affect a loss of Combat Readiness Percentage (CRP). For example, currency determines minimum altitudes in rules of conduct based upon the most recent low altitude fly date. Specific currency requirements for individual type mission profiles can be found in the Aviation T&R Program Manual.

b. Proficiency. A measure of achievement of a specific skill. Refly factors establish the maximum time between demonstration of those particular skills. If an aircrew exceeds the refly factor for a particular event, the individual loses proficiency status for that particular event. To regain

proficiency, an individual shall complete the delinquent event with a proficient flight lead. For additional requirements concerning regaining proficiency, refer to the Aviation T&R Program Manual.

9. Core Progression Model. The FA-18A/C Core Progression Model is depicted as follows:

## FA-18A/C CORE PROGRESSION MODEL

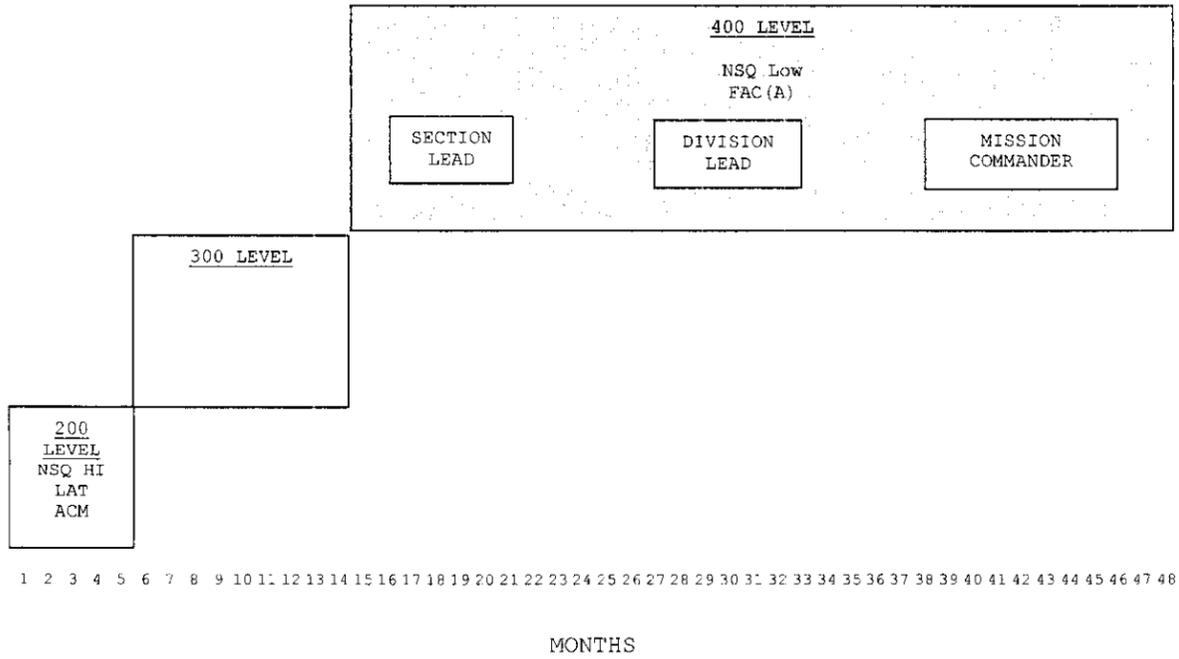


Figure 1.--FA-18A/C Core Progression Model.

101. MARINE FIGHTER ATTACK SQUADRON (ALL WEATHER) (FA-18D) UNIT TEMPLATE,  
MISSION STATEMENT, UNIT CORE CAPABILITY, UNIT CORE COMPETENCY

1. VMFA(AW) Mission. Support the MAGTF Commander by providing supporting arms coordination, conducting multi-sensor imagery reconnaissance, and destroying surface targets and enemy aircraft day or night under all weather conditions during expeditionary, joint, or combined operations.

2. Mission Essential Task List (METL)

- a. (UJTL TA 1.1.4) Conduct Sea and Air Deployment Operations.
  - Maintain the capability to deploy and operate from naval shipping, advanced bases, and expeditionary airfields.
  - Maintain the capability to conduct extended range operations employing aerial refueling.
  - Perform organizational maintenance on assigned aircraft.
- b. (UJTL TA 2) Develop Intelligence.
  - Conduct Multi-sensor Imagery, visual reconnaissance, and provide battlefield damage assessment.
- c. (UJTL TA 3.2.1) Conduct Fire Support.
  - Conduct Offensive Anti-Air Warfare.
  - Conduct Offensive Air Support.
- d. (UJTL TA 3.2.2) Conduct Close Air Support.
  - Conduct escort of friendly ground forces.
  - Conduct Assault Support Escort.
- e. (UJTL TA 3.2.3) Conduct Interdiction Operations.
  - Conduct armed reconnaissance.
  - Conduct Strike Coordination and Reconnaissance (SCAR).
- f. (UJTL TA 3.2.4) Conduct Joint Suppression of Enemy Air Defenses.
- g. (UJTL TA 3.2.8) Conduct Air to Air Operations.
  - Conduct Anti-Air Warfare.
  - Intercept and destroy enemy aircraft in conjunction with ground or airborne fighter control under all weather conditions.
  - Conduct self escort and escort of friendly aircraft and ground forces.
- h. (UJTL TA 3.3) Coordinate Battlespace Maneuver and Integrate with Firepower.
  - Conduct combined arms coordination and control operations.
  - Conduct Tactical Recovery of Aircraft and Personnel (TRAP) operations.

3. Table of Organization. Refer to Table of Organization 8840 managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for FA-18D units. As of this publication date, FA-18D units are authorized:

FA-18D Squadron  
12 aircraft  
19 Pilots  
19 WSOs

4. Core Capability. A core capable squadron is able to sustain 20 sorties on a daily basis during contingency/combat operations. The above sortie rates are based on a 1.4 hour average sortie duration and assumes 70 percent FMC aircraft and 90 percent T/O aircrew on hand. If unit FMC aircraft < 70 percent or T/O aircrew < 90 percent, core capability will be degraded by a like percentage. A core capable squadron is able to accomplish all tasks designated in the unit METL from a main base, expeditionary base or aircraft carrier.

5. METL/Core Skill Matrix. FA-18D core/core plus skills directly support the METL as follows:

METL	CORE SKILLS													
	FAM	AAR	AS	NS	AA	LAT	CAS	AR	SCAR	AAW	SEAD	AI	FAC(A)	TAC(A)
a. Conduct Sea and Air Deployment Ops	X	X		X										
b. Develop Intelligence		X		X									X	X
c. Conduct Fire Support	X	X	X	X	X	X	X	X	X	X	X	X	X	X
d. Conduct Close Air Support	X	X	X	X		X	X						X	X
e. Conduct Interdiction Operations	X	X	X	X		X		X	X					
f. Conduct Joint Suppression of Enemy Air Defenses	X	X	X	X			X				X	X		
g. Conduct Air to Air Operations	X	X		X	X					X		X		
h. Coordinate battlespace maneuver	X	X		X									X	X

CORE PLUS SKILLS

METL	E/CQ	NS	ESC	AAW	LFE	FAC(A)	TAR
a. Conduct Sea and Air Deployment Ops	X	X					
b. Develop Intelligence		X				X	X
c. Conduct Fire Support		X		X	X	X	
d. Conduct Close Air Support		X	X			X	
e. Conduct Interdiction Operations		X					
f. Conduct Joint Suppression of Enemy Air Defenses		X			X		
g. Conduct Air to Air Operations		X		X	X		
h. Coordinate battlespace maneuver		X				X	

6. FA-18D Core Model Minimum Requirements (CMMR). CMMR is measured in terms of the minimum numbers of core skill proficient crews and minimum numbers of combat leaders per paragraphs a and b below:

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

CORE SKILL *CORE PLUS	FA-18D Unit CSP Requirements		
	Pilots	WSOs	Crews
FAM	12	12	12
AAR	12	12	12
AS	12	12	12
NS	12	12	12
AA	12	12	12
LAT	8	8	8
CAS	12	12	12
AR	12	12	12
SCAR	10	10	10
AAW	10	10	10
SEAD	6	6	6
AI	10	10	10
FAC(A)	8	8	8
TAC(A)	4**		4
*E/CQ	12	12	12
*NS LOW	6	6	6
*ESC	8	8	8
*AAW	4	4	4
*LFE	8	8	8
FAC(A)	4	4	4
*TAR	8	8	8

\* Note: Proficiency in core plus skills is not required to obtain unit CSP.

\*\* One TAC(A) CSP crewman constitutes a TAC(A) crew.

b. A standard FA-18D crew consists of 1 pilot and 1 WSO. A CSP crew consists of individuals representing each crew position who have achieved and maintain individual CSP. In order to be considered proficient in a core skill, a crewmember must attain and maintain proficiency in core skill events as delineated in paragraphs (1) and (2) below.

(1) Events Required to Attain Individual CSP. To initially attain CSP in a core skill, a pilot/WSO must simultaneously have a proficient status in all of the core (200-300) T&R events listed in the table below for that core skill:

Individual CSP Attain Table														
FA-18D Pilot/WSO	Skills						Missions							
	FAM	AAR	AS	NS	AA	LAT	CAS	AR	SCAR	AAW	SEAD	AI	FAC (A)	TAC (A)
T&R event requirements to attain CSP	S200R 201R 202R	210R 211R	S230 S231 S232 S233 S234 235R 236R 237R 238R 239R 240 241 242R 243R	S250 251R 252 253R 254	260R 261R 262R 263R 264 265R S266 S267 268R 269R 270	S280 281R 282	S290R 291R 292R S300 301R 302R 303	310R 311R 312R	320R 321R	S330R 331R 332R S335R 336R 337R	S340R S341R 342R	S350R 351R 352R 353R 354R	S380 S381 382 383R 384 385 386 387R 388R 389R 390R 391	392R 393
R=Refresher POI event S=Event conducted in simulator														

(2) Events Required to Maintain Individual CSP. To maintain CSP, a Pilot/WSO must maintain proficiency in all of the T&R events listed in the chart below for that core skill.

Individual CSP Maintain Table														
FA-18D Pilot/WSO	Skills						Missions							
	FAM	AAR	AS	NS	AA	LAT	CAS	AR	SCAR	AAW	SEAD	AI	FAC (A)	TAC (A)
T&R event requirements to maintain CSP	S200R 202R	211R	237R 239R 243R	251R	260R 261R 262R 263R 265R	281R	291R 301R 302R	310R 311R 312R	320R 321R	S330R 331R 332R S335R 336R 337R	S340R S341R 342R	350R 351R 352R 353R 354R	383R 387R 389R 390R	392R

R=Refresher POI event  
S=Event conducted in simulator

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

Individual Core Plus Skills Attain Table							
FA-18D Pilot/WSO	E/CQ	NS	ESCORT	AAW	LFE	FAC (A)	TAR
T&R event requirements to attain Core Plus Skill proficiency	400R 401R 402R 403R 404R	430 431 432R	440R 441R	450R	470R 471R	491R 492 493 494	496 497R 498

R=Refresher POI event  
S=Event conducted in simulator

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

FA-18D Pilot/WSO	E/CQ	NS	ESCORT	AAW	LFE	FAC(A)	TAR
T&R event requirements to maintain CSP	402R 403R 404R	432R	440R 441R	450R	471R	491R	497R

c. Minimum Combat Leader Requirements. At a minimum, in order to be considered Core Competent, a squadron must possess the following numbers of aircrew with the listed flight leadership designations.

FLT LD DESG	Pilots	WSOs
MSN CMDR	4	4
DIV LDR	6	NA
SEC LDR	10	NA

7. Qualifications And Designations

a. Qualification. A status assigned to personnel based on demonstration of proficiency in a specific skill. Specific criteria to achieve a qualification is delineated in this T&R manual. Upon successful completion of qualification criteria, commanding officers may issue an appropriate qualification letter for inclusion in the NATOPS jacket and APR. Aircrew do not lose a qualification as a function of refly factor for individual events. Loss of proficiency (delinquent refly factor) for all associated qualification events (events with measurable refly factor; '\*' refly factor events excluded) constitutes loss of that qualification. Re-qualification requires demonstration of proficiency. Re-qualification shall be achieved by successfully re-completing all R-coded events associated with the respective qualification listed in the FA-18A/C/D training tables (unless waived per paragraph 305 of the Aviation T&R Program Manual).

b. Designation. A status assigned to an individual based on leadership ability. A designation is a command specific, one-time occurrence and remains in effect until removed for cause. Specific designation requirements are delineated in the following tables. Commanders shall issue a designation letter to the individual upon the occasion of original designation, with appropriate copies for inclusion in the NATOPS jacket and APR.

c. Qualifications And Designations Tables. The tables below delineate the T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All stage lectures, briefs, squadron training and prerequisites shall be complete prior to completing final events. Qualification and designation letters signed by the commanding officer shall be placed in the NATOPS and APR jackets.

Qualification (TRACKING CODE)	Initial Event Qualification Requirements.
NATOPS (600E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
INSTRUMENT (601E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
LAT QUAL (610E)	S280, 281, 282R
ACM QUAL (613E)	260R, 261R, 262R, 263, S264, 265R, S266, S267R, 268R, 269R, 270
NS QUAL (HI) (615E)	S250, 251R, 252, 253R, 254
NS QUAL (Low) (616E)	430, 431, 432R
FAC(A) QUAL (614E)	S380, S381, 382, 383R, 384, 385, 386, 387R, 388R, 389R, 390R
TAC(A) QUAL (617E)	392R, 393

Designation (TRACKING CODE)	Designation Requirements.
PMCF (619E)	IAW OPNAV 3710.7 and an annual designation letter signed by the commanding officer.
SECTION LEAD (631E)	620E, 621E, 622E, 623E, 624E, S625E, S626E, 627E, 628E, 629E, 630E, 631ER. The IUT shall be complete with all 200 and 300 level sorties not including FACA 380-391 and TACA 392-393 prior to beginning section lead workup.
DIVISION LEAD (644E)	640E, 641E, 642E, 643E, 644ER.
MISSION COMMANDER (652E)	650E, 651E, 652ER.
FLSE	Per FA-18 Flight Leadership Program Model Manager requirements.
LAT(I) (513E)	IAW the MAWTS-1/NSAWC Course Catalog.
ACT(I) (522E)	* NSI (High) or NSI (Low) per MAWTS-1 Course Catalog.
NS(I)* (532E)	
FAC(A)I (542E)	
TAC(A)I (550E)	
TOPGUN (660)	
MDTC (661)	
WTI (662)	

d. Instructor Requirements. A squadron should possess the following number of pilots/WSOs with the listed instructor designations IAW MCO 3500.12 (WTP). NSI in the following matrix refers to NSI (low). The squadron CO/XO instructor designations shall not count toward the following numbers:

Instructor Designation	Pilots	WSOs
LATI	3	NA
NSI	3	3
ACTI	3	3
FAC(A) I		4
TAC(A) I		2
WTI	2	2
LSO	2	NA
MDTC/TOPGUN	1	1
FLSE	2	1

8. Core Progression Model. The FA-18D Core Progression Model is depicted as follows:

## FA-18D CORE PROGRESSION MODEL

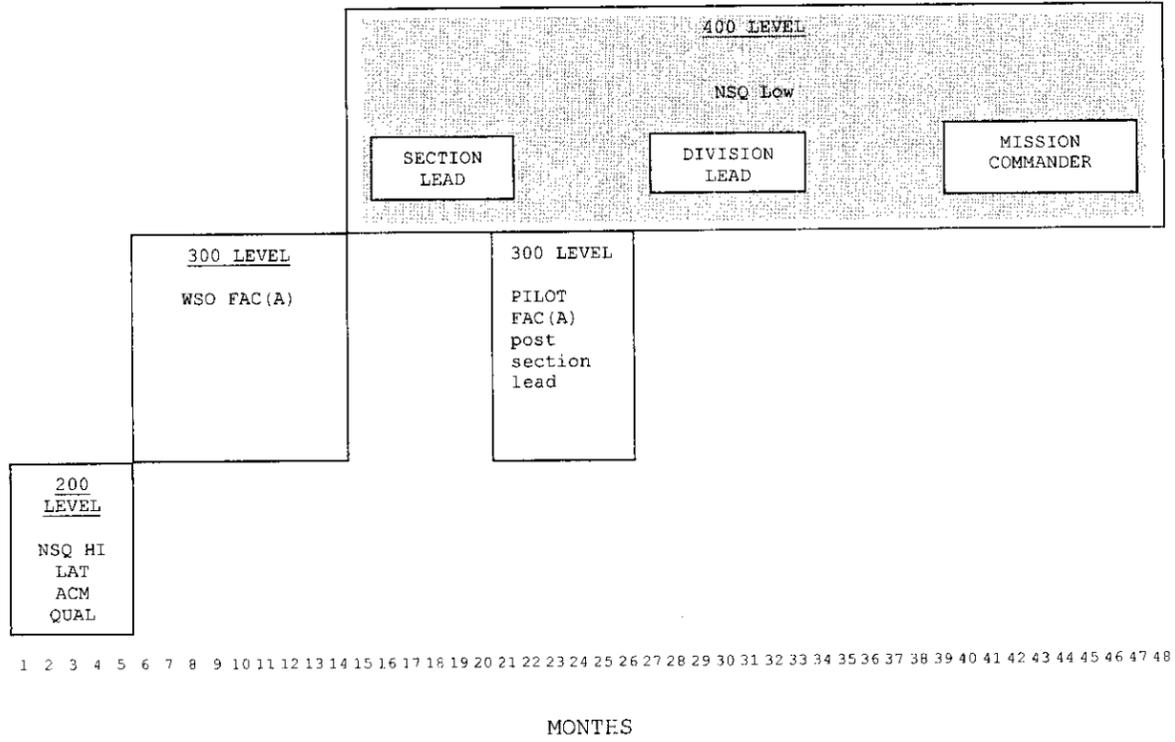


Figure 2.--FA-18D Core Progression Model.

102. PROGRAM OF INSTRUCTION (POI) FOR BASIC/TRANSITION/CONVERSION PILOT AND WSO (CAT I/II)

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-33	100 Level Training (CAT I/II)	FRS
34-58	200 Level Training	Tactical Squadron
59-82	300 Level Training	Tactical Squadron
83-88	400 Level Training	Tactical Squadron

103. POI FOR COMPREHENSIVE REFRESHER PILOT AND WSO (CAT III). (731 days or greater since last FA-18 flight.)

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-22	100 Level Training (CAT III)	FRS
23-46	200 Level Training	Tactical Squadron
47-70	300 Level Training	Tactical Squadron
71-76	400 Level Training	Tactical Squadron

104. POI FOR MODIFIED REFRESHER PILOT AND WSO (CAT IV). (486 days or greater but less than 730 days since last FA-18 flight.)

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-5	100 Level Training (CAT IV)	FRS
6-29	200 Level Training	Tactical Squadron
30-53	300 Level Training	Tactical Squadron
54-59	400 Level Training	Tactical Squadron

105. POI FOR REFRESHER PILOT SAFE-FOR-SOLO (CAT V). (366 days or greater but less than 485 days since last FA-18 flight.)

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-3	100 Level Training (SFS)	FRS
4-27	200 Level Training	Tactical Squadron
28-51	300 Level Training	Tactical Squadron
52-57	400 Level Training	Tactical Squadron

110. GROUND/GROUND/ACADEMIC TRAINING COURSES OF INSTRUCTION. To ensure the highest quality of training and readiness, squadron commanding officers will ensure that the T&R stage academic syllabus is conducted in accordance with the MAWTS-1 Course Catalog. This squadron academic training should be conducted once a week as a minimum. To add to the quality and scope of lectures given, the commanding officer should ensure that appropriately qualified individuals are sent to the schools listed below as a minimum.

<u>COURSE</u>	<u>ACTIVITY</u>
WTI	MAWTS-1 MCAS Yuma
Marine Division Tactics Course (MDTC)	MAWTS-1 MCAS Yuma
Navy Fighter Weapons School	NAS Fallon
HARM University	China Lake
SLAM(ER) School	Point Mugu
SLATS	NAS Fallon
Warfighter School	Tucson

130. GROUND/FLIGHT/SIMULATOR/EVENT PERFORMANCE REQUIREMENTS 200 LEVEL, 300 LEVEL, 400 LEVEL (FA-18A/C/D)

1. General

a. All events, to include simulators, shall begin with a comprehensive brief with emphasis on admin procedures (from the USMC FA-18 ADMIN SOP), CRM, tactical procedures (from the USMC FA-18 TACSOP), performance standards and aircrew expectations.

b. All events, to include simulators, shall terminate with a comprehensive debrief with emphasis on aircrew performance utilizing all evaluation techniques available (e.g., TACTS, tapes, participating aircrews, and AIC personnel).

c. An ATF is required for any initial event completed by a Basic, Transition, Conversion of Refresher pilot, or as recommended by the Squadron Standardization Board. Standardized ATFs can be obtained by the T&R sponsor, MAWTS-1.

d. The T&R manual is the Marine Corps aircrew training document. It relates the training requirements and standards for Marine aircrew. When operational commanders assign FA-18 squadrons to prolonged commitments where specific T&R training is not available (e.g., deployed aboard CV), it is expected that degradation in some mission areas will occur. Commanding officers are authorized and encouraged to employ the FA-18 in specific missions relating to their current situation and avoid those mission areas that are not relevant. It is not intended for squadrons to train to specific mission areas and avoid mission areas that the FA-18 is capable of conducting, but are difficult to coordinate. This type of mission specific training is granted only to squadron commanding officers deployed in austere conditions that prevent them from employing the T&R manual as written.

2. T&R Phases

a. The 200 level phase is considered to be 'skill' level training. Completion of the 200 level phase should provide the FA-18 aircrew with the skills required to execute FA-18 missions that directly support the unit METL.

b. The 300 level phase is considered to be 'mission' level training. Completion of the 300 level phase ensures FA-18 aircrew are trained to execute missions that support the unit METL.

c. The 400 level phase is considered to be high risk, low probability of execution or theater specific training and is referred to as "Core Plus". Although core plus training events may provide valuable training opportunities, they are not measured as part of the unit reporting.

d. The 500 level phase contains instructor workup and certification syllabus events.

e. The 600 level phase contains requirements, qualification and designation syllabus events.

f. The 700 level phase contains ordnance and deficiency tracking codes to aid in training management.

g. The 200 and 300 level phases are considered core skills and will be reported as such.

h. The events within a stage should be flown in order. Aircrew should complete the prerequisites prior to beginning that stage. The commanding officer may waive this requirement based on aircrew experience and operational necessity but waivers should be avoided to the greatest extent possible.

i. In the event that ordnance or dissimilar adversary requirements are not available, or the available training range does not fully support the syllabus event, the following 700 Level tracking codes shall be logged in addition to the syllabus event code:

- (1) TRK-730: Required ordnance not available.
- (2) TRK-731: Dissimilar adversary not available.
- (3) TRK-732: Required range not available.

### 3. Simulators

a. Flight simulators will be utilized to the maximum extent possible. To enhance flight training and airborne proficiency, simulators shall be flown as a prerequisite for required stages of training when squadrons are co-located with mission capable simulators. Where simulators are not available, commanders may authorize the simulator events to be waived or flown in the aircraft as required.

b. During 200, 300, and 400 Level training, simulators can be used to update SSWD sorties in the 700 Level when the mission has first been flown in the aircraft. For example, if an aircrew completes an SSWD 700 Level event in the aircraft and flies a simulator event within the appropriate reflly interval, the simulator will update the SSWD proficiency for that particular 700 Level tracking code.

4. CRP Accountability. In order to log a T&R code, aircrew must satisfactorily complete event requirements IAW assigned Performance Standards. Logging multiple training codes on a single sortie shall be avoided except for the following mission areas:

a. CAS, AR, SCAR, AI - Required ordnance for these events may be changed based on NCEA availability, range restrictions or other operational constraints. When scheduling sorties, training officers are allowed to schedule additional training codes based on anticipated ordnance delivery profiles if the Performance Standards are met for the ordnance delivered. For example, aircrew are scheduled for CAS 291 with the required ordnance (4xMk-82/250 rounds of 20mm). The training officer may schedule additional training codes of AS 237 and AS 238. Even though all requirements for sortie completion may not be met for those two codes, the aircrew may log the additional codes, as long as the Performance Standards are met (i.e. valid delivery, within required CEP, etc).

b. Furthermore, exceptions should be made for sorties during which multiple unique training events can be completely accomplished. For example, it is appropriate to log three separate training codes if, during the conduct of a sortie, the flight completes all of the specific event requirements for a syllabus event, conducts air-to-air refueling and completes all AAR requirements, then completes a third syllabus event prior to landing. If multiple syllabus events are to be accomplished during a single flight evolution, appropriate planning, briefing, and debriefing time must be allotted to ensure that requisite training objectives can be met. Multiple codes shall also be logged for 500, 600 and 700 Level tracking events.

5. Number of aircraft required. Some of the syllabus events in the T&R have 1+ or 2+ aircraft required. 1+ aircraft required implies that the flight may be flown as a single ship or greater. 2+ aircraft required implies that the flight may be flown as a section or greater.

6. Sortie Requirements. Sortie requirements state the minimum number of passes, engagements, or maneuvers required to demonstrate proficiency. T&R event requirements are written to allow completion on one sortie. Squadrons who cannot complete all stated requirements in one sortie (i.e. CV squadrons or squadrons limited by range access and regulations) may complete the requirements of an event in multiple sorties as long as the completion sorties are flown in succession and within normal currency windows defined by unit SOP. If an aircrew's currency expires (i.e. a warm up flight is required), or the event requirements cannot be completed on the next scheduled sortie, then the event shall be re-flown in its entirety.

7. Performance Standards. Performance standards are listed for each T&R event description. These are training standards for individual aircrew performance and should be utilized by the evaluator as a guideline to determine the satisfactory completion of each event. If the aircrew did not successfully attain the performance standards, the training code shall not be logged as a completed flight and CRP credit shall not be granted until proficiency is demonstrated.

8. T&R Chaining. Event chaining allows for the completion of more complex and/or advanced events using the same skill to update proficiency status of events. Only events in a sequence entailing demonstration of equivalent skills shall be chained. Refer to the Aviation T&R Program Manual Chapter 2 for detailed guidance on Conditional Chaining. For the purposes of this T&R, any flight event will chain FAM-201, and any event flown with the aid of NVDS will chain NSQ-251.

9. FA-18 Tactical T&R Refresher. The FA-18 Tactical T&R Refresher syllabus shall be completed in tactical squadrons. Aircrew should fly all R coded events. However, a Refresher need not fly every event within a stage to be re-qualified in that stage. The commanding officer may tailor the Refresher syllabus to fit the experience level of the Refresher per the Aviation T&R Program Manual. When all of the R coded events within a stage are successfully completed, all remaining events in that stage that are proficient or delinquent are updated and respective CRP credited. This assumes that the Refresher aircrew had completed all events in the stage during his previous tour. If the Refresher aircrew did not previously complete events in a stage of training, those events must be completed in addition to R coded events. Experienced aircrew (completed at least one fleet tour in an operational unit) who have not flown for an extended period of time, but not long enough to require FRS Refresher training, shall be assigned to the Refresher POI. When an individual assigned to the Basic POI has attained individual CSP in all Core Skills, that individual shall be re-assigned to the Refresher POI.

10. FA-18 FRS Training

a. FA-18 FRS training is provided at one of three designated FRSs, VMFAT-101, VFA-106, or VFA-125.

b. Pilot FRS training standards are the CNO approved FA-18A/C/D pilot syllabi. WSO FRS training is provided only at VMFAT-101. WSO training standards are the VMFAT-101, CNO sanctioned FA-18D WSO syllabi. The CNO FRS Pilot and WSO training syllabi are not updated in conjunction with this manual and are not included herein.

c. Basic/Transition/Conversion (CAT I/II) aircrew will be assigned to fly the entire FRS Basic (CAT I) training syllabus at a designated FRS training squadron.

d. FRS Refresher syllabi

(1) Pilots who have not flown the FA-18 in 366 days or greater but less than 485 days will complete a Safe-for-Solo (CAT V) syllabus at a designated FRS training squadron.

(2) Aircrew who have not flown the FA-18 in 486 days or greater but less than 730 days will complete a Modified FRS Refresher (CAT IV) syllabus at a designated FRS training squadron.

(3) Aircrew who have not flown the FA-18 in 731 days or greater will complete the comprehensive FRS Refresher syllabus (CAT III) at a designated FRS training squadron.

11. Aircrew conducting NS LAT training [other than NSQ Low training under the supervision of an NSI (Low)] shall be NS Low qualified.

131. CORE SKILL BASIC PHASE (200 LEVEL) TRAINING

1. General. This phase contains basic core skill training essential to wartime employment of the unit platform/system. This phase should provide aircrew with the skills required to complete 300 level missions. This phase should be completed prior to beginning the 300 level events if practicable.

2. Familiarization (FAM)

a. Purpose. To maintain proficiency and familiarity with flight characteristics, limitations, and operating procedures.

b. General. This stage provides an arrival inventory of aircrew proficiency and allows aircrew to meet currency requirements for the FA-18. Squadron shall use these events for:

- (1) Squadron introduction and area familiarization.
- (2) Back in the saddle.
- (3) Periodic emergency procedures training.

c. Ground /Academic Training. Aircrew must be current per NATOPS flight manual and USMC FA-18 SOP. Aircrew shall review the USMC FA-18 SOP, TACSOP, local addendums, and area range manuals. The following administrative and academic tasks will be accomplished prior to completing the 200 level T&R codes.

EVENT	DATE	INSTRUCTOR
<b>INSTRUMENT/LOCAL AREA FAM</b>		
LOCAL S.I.D.		
LOCAL DIVERTS		
BINGO PROFILE		
TACAN APPROACH		
COURSE RULES		
<b>WITHIN FIRST 10 FLIGHTS</b>		
10 SECOND GO		
SECTION GO		
RADAR TRAIL DEPT		
NORDO APP - WING		
SECTION PAR		
ROLL & GO*		
OVERHEAD		
<b>WITHIN THE FIRST 20 FLIGHTS</b>		
SECTION LANDING		
LEAD NORDO SECT		
NT NORDO WING		
FLT LD SEP - FINAL		
SECTION HUNG ORD		
SIM SINGLE ENG APPR TO WAVEOFF		
<b>WITHIN THE FIRST 30 FLIGHTS</b>		
LEAD NT NORDO		
OVERHEAD NT		
DIV HERD GO		
DIV STREAM GO		
DIV RDR TRAIL DEPT AS -4		
<b>SELF-PACED READINGS</b>		<b>DATE COMPLETED</b>
USMC FA-18 TACSOP		
TG MAN, CH. 1: COMM BREV		
TG MAN, CH 34: DEF CM		
TG MAN, CH. 27: SHOT VAL		
TG MAN, CH. 31: FLIR SYS		
TG MAN, CH. 32: LGBs		
TG MAN, CH. 44: FA-18 EMPL		
TG MAN, CH. 45: FA-18 EMPL		
JTTP 3-09.3: JCAS		
AFTTP 3-1, CH. 4: AAA		
AFTTP 3-1, CH. 5: SAMs		
AFTTP 3-1, CH. 6: FTR ARCFT		

CHALK-TALKS	DATE COMPLETED
WINGMAN RESPONSIBILITIES	
A/A TIMELINE MNGMNT	
A/G TIMELINE MNGMNT	
CAS SYSTEM MNGMNT	
INTERCEPT MNGMNT	

d. Flight and Simulator Event Training. (3 Events, 3.6 Hours).

SFAM-200

1.0

R WTT/OFT S

Goal. Demonstrate proficiency in executing ground and airborne emergency procedures.

Requirement. Successfully execute the procedures for one ground emergency and two airborne emergencies.

Performance Standards

Executes the correct "boldface" NATOPS procedures.  
Makes appropriate flight leadership decisions.

Range Requirements. MDA.

FAM-201

1.3

R 1+ FA-18A/C/D A

Goal. Introduce local course rules, review administrative SOPS, and review advanced handling characteristics of the FA-18.

Requirement. Practice standardized ground procedures, departure to and arrival from assigned working area IAW local course rules. Review advanced handling characteristics and familiarize with FA-18 performance envelope. Conduct G-awareness maneuver, high AOA maneuvering ( $\geq 35$  alpha), pirouette control logic, max performance and sustained performance turns at 15,000 ft. Aircraft must be in a symmetric configuration and CG must be within limits for high AOA flight.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Demonstrate proficiency and knowledge in local area procedures and course rules.  
Demonstrate proficiency in local arrival procedures, to include one simulated instrument approach.  
Demonstrate proficiency in maintaining aircraft control throughout FA-18 envelope.

Prerequisite. SFAM-200.

Range Requirements. SUA, max altitude at least 30,000' above ground level.

FAM-202            1.3            R 2 FA-18A/C/D A

Goal. Practice radar intercept and stern conversion mechanics against a single bandit.

Requirement. With a minimum of 40 NM separation, the fighter conducts a minimum of three intercepts to a stern conversion. The bandit will commence one intercept from 10,000-25,000 ft at any airspeed, one intercept from 30,000-40,000 ft at any airspeed, and one intercept from 1000-5000 ft at less than 250 knots. Maneuvering +/- 45 degrees and 5000'.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Maintains proper formation and visual mutual support to and from assigned working area.  
Demonstrates proficiency in basic radar mechanics IAW USMC TACSOP.  
Arrives at a valid rear quarter weapons envelope with 0 to +100 knots Vc.  
Takes valid shots.

Prerequisite. SFAM-200.

Ordnance. CATM-9 and CATM-7/120.

Range Requirements. MDA.

3. Air to Air Refueling (AAR)

a. Purpose. To gain and maintain proficiency and familiarity with AAR operations.

b. General. Operations shall be conducted in accordance with the Air Refueling NATOPS Manual. Squadrons may conduct AAR as a part of other ferry or tactical missions.

c. Ground/Academic Training. Squadrons shall complete the AAR stage briefs before conducting any AAR flight per the NATOPS Flight Manual, Air refueling NATOPS manual, and local SOPs.

d. Flight and Simulator Event Training. (2 Events, 2.6 Hours).

AAR-210            1.3            R 1+ FA-18A/C/D A

Goal. Become proficient in day aerial refueling.

Requirement. Perform all AAR procedures to include: tanker rendezvous, observation position, pre-contact position, refueling procedures, and tanker departure. Six contacts required for completion. If proficient, one contact required for completion.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Executes safe rendezvous procedures.  
Uses proper communications procedures.  
From a stabilized position, successfully engages the basket expeditiously.

Responds quickly and safely to all communications and communications out signals from the tanker aircraft.

Range Requirements. AAR.

External Syllabus Support. One compatible tactical or strategic tanker.

AAR-211 1.3 R 1+ FA-18A/C/D A (NS)

Goal. Become proficient in night aerial refueling.

Requirement. Perform all AAR procedures to include: tanker rendezvous, observation position, pre-contact position, refueling procedures, and tanker departure. Six contacts required for completion. If proficient, 1 contact required for completion.

Performance Standards

Adhere to USMC FA-18 Admin SOP. Executes safe rendezvous procedures.

Uses proper communications procedures.

From a stabilized position, successfully engages the basket expeditiously.

Responds quickly and safely to all communications and communications out signals from the tanker aircraft.

Prerequisite. AAR-210.

Range Requirements. AAR.

External Syllabus Support. One compatible tactical or strategic tanker.

4. Air-to-Surface (AS)

a. Purpose. To develop proficiency in air-to-surface ordnance delivery.

b. General

(1) Emphasize surface-to-air counter-tactics, sensor target acquisition, designation techniques, delivery modes and attack parameters.

(2) AS-237 through AS-240 should be flown on a raked range with bomb impact scoring capability.

(3) AS-240 and AS-242 shall be flown during the day for initial events. After successful completion of the initial event, AS-240 and AS-242 shall be flown as NS events.

(4) Aircraft should be configured with an operable VTR/CVRS, ALQ-126B, ALR-67, TPOD, LDT, CATM-9, KY-58, MIDS, chaff, and flares.

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

d. Flight and Simulator Event Training. (14 Events, 16.7 Hours).

SAS-230

1.0

WTT/OFT S

Goal. Practice medium and high altitude TTPs to survive in a surface-to-air threat environment. Emphasize correctly assessing the relative threat level and performing the appropriate preemptive or reactive maneuvers.

Requirement. Conduct a simulated two-ship air interdiction mission in a medium to high threat surface-to-air environment. Conduct preemptive and reactive maneuvers to defeat the simulated IADS. Consult current tactical publications for appropriate maneuvers.

Performance Standards

Adheres to USMC FA-18 Admin SOP.  
Correctly assess the threat based upon the briefed scenario and aircraft system cueing (ALR-67, etc.).  
Correctly performs briefed TTPs while maintaining situational awareness and mutual support relative to flight.  
Survives the simulated threat and able to continue with mission.

SAS-231

1.0

WTT/OFT S

Goal. Practice guiding PGM's with a TPOD, designate targets with the APG-65/73, and track laser energy with the LDT. Emphasize capabilities and limitations, cockpit displays and switchology, and employment techniques.

Requirement. Guide PGM's to impact using the TPOD. Four self-lasing deliveries, four radar designations to TPOD handoff deliveries, and 4 deliveries using the LDT to track an offboard laser are required for completion.

Performance Standards

Adheres to USMC FA-18 Admin SOP.  
Demonstrate familiarity with TPOD, radar, and LDT procedures and employment.  
Adheres to tactical abort parameters, when applicable.  
Executes proper procedures for designation, weapon release, and guidance.

SAS-232

1.0

WTT/OFT S

Goal. Practice low, medium, and high angle dive ordnance deliveries of Cluster Munitions (CBU's) and rockets using INS and visual designations to computed deliveries. Emphasize switchology, stores management and displays, designation techniques, attack parameters ("Z" Diagrams), and valid delivery techniques.

Requirement. Conduct 4 low, 4 medium, and 4 high angle deliveries on multiple targets using auto slew and CCIP. Half of the deliveries will commence with the target designated via the INS, and half will use visual designations during the attack.

Performance Standards

Adheres to USMC FA-18 Admin SOP.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to tactical abort parameters, when applicable.  
Recognizes errors in delivery techniques and makes corrections.

SAS-233

1.0 WTT/OFT S

Goal. Practice employment of JDAM munitions. Emphasize weapons capabilities and limitations, mission planning factors, stores management and cockpit displays, and employment techniques.

Requirement. Plan and conduct multiple JDAM deliveries. A minimum of 3 PP and 3 TOO deliveries are required for completion.

Performance Standards

Adheres to USMC FA-18 Admin SOP.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to safe escape maneuver in accordance with WASP, when applicable.  
Executes proper procedures for weapon programming and release.

SAS-234

1.0 WTT/OFT S

Goal. Practice employment of laser weapons, to include the Laser Maverick and LGB. Emphasize weapons capabilities and limitations, mission planning factors, stores management and cockpit displays, and employment techniques.

Requirement. Plan and conduct multiple LGB and LMAV deliveries. A minimum of 4 LGB and 4 LMAV deliveries are required for completion. Half of the deliveries will be via self-lasing and half will be via an offboard laser designator.

Performance Standards

Adheres to USMC FA-18 Admin SOP.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to tactical abort parameters, when applicable.  
Executes proper procedures for weapon release and guidance.

AS-235

1.3 R 2 FA-18A/C/D A (NS)

Goal. Practice medium and high altitude TTPs to survive in a surface-to-air threat environment. Emphasize correctly assessing the relative threat level and performing the appropriate preemptive or reactive maneuvers.

Requirement. Conduct a simulated two-ship air interdiction mission in a medium to high threat surface-to-air environment. Conduct preemptive and reactive maneuvers to defeat the simulated IADS. Consult current tactical publications for appropriate maneuvers.

Performance Standards

Adhere to USMC FA-18 Admin SOP. Correctly assess the threat based upon the briefed scenario and aircraft system cueing (ALR-67, etc.).

Correctly performs briefed TTPs while maintaining situational awareness and mutual support relative to flight.

Survives the simulated threat and able to continue with mission.

Prerequisite. SAS-230.

Ordnance. 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft/TACTS Pod if using TACTS instrumented range.

Range Requirements. MDA, URBN, TRG, COMPLEX.

External Syllabus Support. EW/TACTS.

AS-236

1.3 R 1+ FA-18A/C/D A (NS)

Goal. Practice medium to high altitude target acquisition in a complex environment using APG-65/73, TPOD, and additional sensors. Locate and designate pre-briefed Desired Mean Points of Impact (DMPis). If available, with fourth generation TPOD (LITENING II, ATFLIR), be able to recognize and identify targets of opportunity.

Requirement. Using charts and imagery, brief routing, sensor acquisition techniques, FLIR and RADAR predictions, and environmental mission planning factors. Acquire targets and conduct simulated sensor attacks on IR and RADAR significant targets. If a fourth generation TPOD available, classify and identify tactical vehicle-sized targets of opportunity. Two radar significant and 3 IR significant targets are required for completion of the event.

Performance Standards

Adhere to USMC FA-18 Admin SOP.

Use all available mission planning tools (PFPS, JMPS, Charts, Imagery) to brief planned targets/DMPis.

Acquire, identify, and designate selected DMPis.

Prerequisite. SAS-231.

Ordnance. TPOD.

Range Requirements. MOA, URBN TRG, COMPLEX.

AS-237

1.3 R 2+ FA-18A/C/D A (NS)

Goal. Practice medium, and high angle visual ordnance delivery skills using INS and visual designations to computed delivery. Emphasize designation techniques, attack parameters and delivery on a raked range.

Requirement. Conduct medium, and high angle ordnance delivery on a raked range using Auto Slew and CCIP. Six runs medium angle, and 6 runs high angle required for completion. Half

of each type delivery will utilize INS designation prior to attack and half will use visual designations during attack.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to tactical abort parameters, when applicable.  
Achieves a CEP within the TACSOP valid bomb accuracy parameters.

Prerequisite. SAS-232.

Ordnance. 12 MK-76, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, RKD RNG, STRAFE, HVY INERT, EXP.

AS-238

1.3 R 2+ FA-18A/C/D A (NS)

Goal. Practice medium, and low angle visual ordnance delivery/strafing skills using INS and visual designations to computed delivery. Emphasize designation techniques, attack parameters and delivery on a raked range.

Requirement. Conduct medium, and low angle ordnance deliveries and strafing on a raked range using Auto Slew and CCIP. Three runs medium angle bombing, three runs low angle bombing, and three runs strafing are required for completion. Half of all runs will utilize INS designation prior to attack and half will use visual designations during attack.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to tactical abort parameters, when applicable.  
Achieves a CEP within the TACSOP valid bomb accuracy parameters.

Prerequisite. AS-237.

Ordnance. 6 MK-76, 500 rnd 20 mm, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, RKD RNG, STRAFE, HVY INERT, EXP.

AS-239

1.3 R 2+ FA-18A/C/D A (NS)

Goal. Practice low-level navigation ingress, low and high angle pop up attacks using the computed delivery modes as a single ship and as a section. Emphasize attack parameters, delivery modes, and designation techniques.

Requirement. Conduct low-level navigation ingress to a raked range prior to conducting pop-up attacks. Conduct low and high angle pop up attacks on a raked range using Auto Slew and CCIP. Minimum of two single ship pop attacks, two single ship cool pops, and two section low attacks and two section

high/low attacks are required for completion. Maintain proper frag avoidance via maneuvers and timing for simulated HE ordnance.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Briefs carriage and release restrictions and frag avoidance parameters for notional Mk-83 GP weapons.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to tactical abort parameters, when applicable.  
Achieves a CEP within the TACSOP valid bomb accuracy parameters.  
Maintains proper briefed formation, visual mutual support, and achieves briefed target separation.

Prerequisite. AS-238.

Ordnance. 6 BDU-48, 6 MK-76, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, RKD RNG, HVY INERT, EXP.

AS-240

1.3 2+ FA-18A/C/D A (NS)

Goal. Practice ordnance delivery using the TPOD. Emphasize target acquisition and designation, attack parameters, and delivery.

Requirement. Aircrew in the Basic POI shall fly AS-240 during the day for the initial event. After successful completions of the initial event, AS-240 shall be flown as an NS event. Conduct three level and three medium / high angle ordnance deliveries using TFLIR for acquisition and designation. Three Auto or Scene Track attacks and three Nav stabilized attacks required for completion. If on a LASER safe range, use TPOD lasing for target ranging.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Able to acquire and designate targets using the TFLIR.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to tactical abort parameters, when applicable.  
Able to maintain TFLIR designation on target until weapons impact.  
Achieves a CEP within the TACSOP valid bomb accuracy parameters.

Prerequisite. SAS-231.

Ordnance. 6 MK-76 or 2 LGTR, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft

Range Requirements. RSTD, RKD RNG, LSR, IR TGT, RDR TGT, LGB, EXP.

AS-241

1.3 2+ FA-18A/C/D A (NS)

Goal. Practice laser-guided PGM deliveries, emphasizing LGB and Laser Maverick (LMAV). Emphasize stores symbology, cockpit displays, attack parameters and delivery.

Requirement. Conduct LGB and LMAV attacks on IR significant targets of opportunity. Two LGB/LGTR runs and three Captive LMAV runs are required for completion.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to tactical abort parameters, when applicable.  
Proper comm brevity in accordance with J-LASER publication.  
Acquire LASER spot on 75% of attempts.  
Achieve a CEP within the TACSOP valid bomb accuracy parameters.

Prerequisite. SAS-234, AS-240.

Ordnance. 2 LGTR, CATM-65E.

Range Requirements. RSTD, RKD RNG, LGB.

External Syllabus Support. Laser designator (ground or airborne).

AS-242

1.3 R 2+ FA-18A/C/D A (NS)

Goal. Practice employment of JDAM munitions. Emphasize weapons capabilities and limitations, mission planning factors, stores management and cockpit displays, and employment techniques.

Requirement. Aircrew in the Basic POI shall fly AS-242 during the day for the initial event. After successful completion of the initial event, AS-242 shall be flown as an NS event. Plan and conduct multiple JDAM deliveries. Two PP and two TOO deliveries minimum are required for completion of the event.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Able to plan JDAM delivery via TAMPS/JMPS.  
Uses available mission planning tools (PFPS, JMPS, charts, imagery) to develop coordinates/DMPIS and brief applicable mission planning factors.  
Adheres to briefed air-surface timeline.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to tactical abort parameters, when applicable.

Prerequisite. SAS-233.

Ordnance. 1 Captive JDAM, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, TGT, JDAM.

AS-243            1.3            R 2+ FA-18A/C/D A (NS)

Goal. Practice section "buddy lase" and "buddy bomb" ordnance deliveries. Emphasize mutual support and target area tactics.

Requirement. Conduct ordnance deliveries using TPOD and LDT. Conduct three target attacks utilizing "buddy lase" tactics and three target attacks utilizing "buddy bomb" tactics for completion.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Able to acquire/designate target with sensor.  
Able to maintain proper geometry for target illumination until weapons impact ("buddy lase").  
Achieves a CEP within the TACSOP valid bomb accuracy parameters.

Prerequisite. AS-241.

Ordnance. 2 LGTR and 6 Mk-76, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, TGT, LGB, EXP.

5. Night Systems (NS)

a. Purpose. To develop proficiency using Night Vision Devices (NVDs).

b. General

(1) A MAWTS-1 certified NSI (High) or NSI (Low) is required to fly within the section while supervising non-NSQ HI aircrew for NS-250 through NS-254. For FA-18D squadrons, if the NSI is a pilot, the NSI shall be the flight lead; if the NSI is a WSO, the NSI should fly in the wingman aircraft. For NS-250 through NS-254, the flight lead must be NSQ HI.

(2) Upon completion of NS-250 through NS-254 with a designated NSI (High) or NSI (Low), an aircrew may be designated NSQ HI.

(3) WSOs that have successfully completed the FRS Night Attack (NATK) syllabus are only required to fly NS-251 and NS-254. Upon successful completion of NS-251 and NS-254 the WSO aircrew shall be given credit for attaining proficiency in the remaining events in the 200 level NS syllabus.

(4) At the discretion of the commanding officer, NSQ HI aircrew may fly any night or night optional event in the T&R with the aid of NVDs. NSQ HI aircrew are limited to a minimum altitude of 500 ft AGL for all night sorties during HLL conditions (lux of 0.0022 or greater). During LLL conditions, NSQ HI aircrews are limited to a minimum altitude of 1000 ft AGL. In any light level, no lower than local SOPs.

(5) Consult T&R Program Manual for applicable light level and currency restrictions for NS sorties.

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

d. Flight and Simulator Event Training. (5 Events, 6.2 Hours).

SNS-250

1.0 WTT/OFT S NS

Goal. Practice donning and removing NVDs, formation flight, radar intercepts, and high altitude ordnance delivery using NVDs.

Requirement. Perform formation flight and radar intercepts with the aid of NVDs. Perform medium and high altitude ordnance deliveries. Two radar intercepts and four ordnance deliveries using high and medium angle dives are required for completion.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Knows and understands visual illusions associated with NVD usage.  
Maintains pre-briefed formations.  
Conducts safe rendezvous.  
Conducts radar intercept IAW USMC TACSOP to arrive within valid WEZ.  
Takes valid shots.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Adheres to tactical abort parameters.

NS-251

1.3 R 2 FA-18A/C/D A NS

Goal. Introduce formation flying and intercept procedures with the aid of NVDs.

Requirement. Fly goggle tac wing formation enroute to the area. Practice goggle cruise/tac wing/spread/trail formations above 5,000 ft AGL. Introduce various combinations of light options and range cues. Perform four break up and rendezvous. Conduct one forward quarter radar intercept to an AIM-7 LAR and one stern intercept to an AIM-9 LAR.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Maintains visual mutual support.  
Maintains pre-briefed formations.  
Conducts safe rendezvous. Conducts radar intercept IAW USMC TACSOP to arrive within valid WEZ.  
Takes valid shots.

Prerequisite. FAM-201, SNS-250.

Ordnance. CATM-9 and CATM-7/120.

Range Requirements. MOA.

NS-252

1.3 2 FA-18A/C/D vs. 2 Adversaries A NS

Goal. Conduct section attacks against medium altitude, non-maneuvering forward quarter capable bogies using NVDs. Emphasize section intercept procedures using NVDs, maintaining proper formation, sorting, BVR weapons employment, and standardized communications. Demonstrate the effect of expendables on NVDs.

Requirement. With a minimum of 40 NM separation, the fighters commence the intercept at medium altitude. The bogies commence the intercept from 10,000-30,000 ft, any airspeed, non-maneuvering. Fighter weapons control status is tight with PID criteria set by flight lead according to theater of operation. Three runs required for completion. One intercept will be a night ICAO intercept and escort. Expendables should be used by the adversary and fighter on at least one run.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Maintains visual mutual support.  
Performs radar mechanics IAW USMC TACSOP.  
Adheres to briefed air-air timeline IAW USMC TACSOP.  
Takes valid shots.

Prerequisite. NS-251.

Ordnance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft, and CATM-7/120.

Range Requirements. MOA, MACH 1+, EXP.

External Syllabus Support. Two adversaries. (GCI).

NS-253

1.3 R 2 FA-18A/C/D A NS

Goal. Introduce medium and low angle dive deliveries, and low angle pop-up attack deliveries utilizing NVDs.

Requirement. Conduct 3 medium and 3 low angle dive deliveries, and 3 individual low angle pop-up attacks on a raked range using NVDs. Minimum recovery altitude should be 5,000 ft AGL for medium altitude deliveries and 500' ft AGL for low angle deliveries and low angle pop-up attacks. Minimum ingress altitude shall be 500' AGL (>.0022 lux required) for pop-up attacks. Nine deliveries are required for completion.

Performance Standards

Adhere to USMC FA-18 Admin SOP.  
Knows and understands visual illusions associated with NVD usage.  
Adheres to briefed delivery parameters and TACSOP valid delivery criteria.  
Achieves a CEP within the TACSOP valid bomb accuracy parameters.  
Adheres to tactical abort parameters.

Prerequisite. AS-239, NS-251.

Ordnance. 6 MK-76, 3 BDU-48, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, RKD RNG, EXP.

NS-254

1.3

2 FA-18A/C/D A NS

Goal. Introduce section medium/high altitude section PGM deliveries.

Requirement. Conduct section PGM attacks using NVD's and onboard sensors. Six runs using air-surface timeline and TPOD deliveries required for completion. Emphasize mutual support, target acquisition, and target area tactics.

Performance Standards

Adhere to USMC FA-18 Admin SOP.

Knows and understands visual illusions associated with NVD usage.

Acquires and designates briefed target with sensors.

Maintains mutual support and proper visual lookout with NVD scan and minimizing "heads-down" time.

Achieves a CEP within the TACSOP valid bomb accuracy parameters.

Adheres to tactical abort parameters.

Prerequisite. AS-241, NS-253.

Ordnance. 2 LGTR, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, RKD RNG,, TGT, LGB.

6. Air-to-Air (AA)

a. Purpose

(1) To increase aircrew proficiency in employing the FA-18 in all aspects of the air-to-air arena.

(2) Knowledge of air-to-air aircraft systems, weapons and performance characteristics should be emphasized throughout this phase.

(3) For individual employment, envelopes and shot validity for air-to-air weapons will be stressed on every mission.

(4) For multi-plane evolutions, mission objectives, timeline awareness, mutual support, sensor usage, standardized comm., weapons employment, AIC integration, short range radar mechanics, defensive reaction, targeting and flow decisions will be stressed on every mission. AIC and Data Link should be utilized to the maximum extent possible. If co-located with AIC controllers, a face-to-face brief and debrief should be conducted for all engagements that begin from beyond visual range. The TACTS range shall be utilized to the maximum extent possible. If units are not co-located with an appropriate TACTS facility, every effort should be made to ensure aircrew have the ability to fly on and debrief in a TACTS facility prior to gaining their ACM qualification.

b. General

(1) AA-260 through AA-270 require an ACTI flight lead in the flight when any participating aircrew is not ACM qualified. For FA-18D aircrew, a non-ACM qualified pilot requires an ACTI WSO in the aircraft and an ACTI pilot flight lead. A non-ACM qualified WSO requires an ACTI pilot in the

aircraft. If all participating aircrew are ACM qualified there is no requirement for an ACTI in the flight.

(2) After successful completion of the AA Stage and successfully completing the AA-270 evaluation sortie, the aircrew is eligible to be ACM qualified by the commanding officer.

(3) Aircraft should be configured with an operable VTR/CVRS, ALR-67, CATM-9 and chaff and flares. For multi-plane evolutions, in addition to the above listed configuration, CATM-7/120, KY-58, ALQ-126B, CIT, MIDS and TACTS Pod should be utilized.

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

d. Flight and Simulator Event Training. (11 Events, 13.4 Hours).

AA-260            1.3                    R 2 FA-18A/C/D A

Goal. Practice the SSD and the mechanics of offensive BFM. Emphasize energy management and assessment, turn circle theory, deck awareness and weapons employment recognition.

Requirement. One SSD, three offensive perch setups and 1 guns defense (executed from an offensive start) required. Offensive perch setups will be conducted with 3000 ft, 6000 ft, and 9000 ft separation between aircraft. The guns defense start is at the discretion of the flight lead.

Performance Standards

Adheres to USMC Admin SOP.  
Manages fuel per the brief.  
Maintains offensive position.  
Employ Follow on weapons.  
Separate prior to becoming neutral.  
Take valid shots.

Prerequisite. FAM-201/202.

Ordnance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. AA, EXP.

AA-261            1.3                    R 2 FA-18A/C/D A

Goal. Practice the SSD and the mechanics of defensive BFM. Emphasize energy management and assessment, turn circle theory, deck awareness and weapons employment recognition.

Requirement. One SSD, three defensive perch setups and 1 guns defense (executed from a defensive start) required. Defensive perch setups will be conducted with 3000 ft, 6000 ft, and 9000 ft separation between aircraft. The guns defense start is at the discretion of the flight lead.

Performance Standards

Adheres to USMC Admin SOP.  
Manages fuel per the brief.  
Defeat initial weapons employment.  
Maneuver to deny follow-on WEZ.  
Neutralize attacker.

Separate or kill attacker.

Prerequisite. AA-260.

Ordnance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. AA, EXP.

AA-262

1.3 R 2 FA-18A/C/D A

Goal. Practice SSD, FQMD, Flat Scissors, Rolling Scissors and BFM against a Cat IV adversary from a neutral start. Emphasize energy management and assessment, game plans, offensive and defensive transition recognition, weapons employment, deck awareness and expendable usage.

Requirement. One SSD, Flat Scissors, Rolling Scissors, one neutral engagement from a known start, and one FQMD to an engagement. The altitude for known start engagements should be varied to demonstrate the impact of altitude on fighter performance and game plan.

Performance Standards

Deny opponent weapon employment opportunities.

Achieve first weapons employment opportunity.

Gain positional advantage.

Employ follow-on weapons.

Transition to offensive or defensive BFM. Separate or kill attacker.

For FQMD detect via SRR, RWR and or visual lookout.

Accurate ID.

Prerequisite. AA-261.

Ordnance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. AA, EXP.

AA-263

1.3 R 1 FA-18A/C/D vs. 1 Dissimilar Adversary A

Goal. Evaluate BFM skills versus a dissimilar adversary.

Requirement. Three engagements required for completion.

Performance Standards

Executes appropriate game plan for type adversary.

When applicable, employ mission performance standards for OBFM, DBFM, or HA.

Prerequisite. AA-262.

Ordnance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. AA, EXP.

External Syllabus Support. One dissimilar adversary. If FA-18 aircrew is not ACM qualified the adversary must be instructor qualified.

SAA-264

1.0 WTT/OFT S

Goal. Practice section maneuvering against a single CAT IV adversary with SAR-1 and IR-3 missiles. Conduct the appropriate radar mechanics against maneuvering targets post meld/pre-shot, and post shot. Conduct appropriate short-range radar mechanics post notch and post merge. Emphasize mutual support, proper radar mechanics, engaged communications, expendable usage, and minimizing time to kill.

Requirement. Complete a minimum of seven intercepts to include the following: 2 post meld pre-shot target maneuvers. 2 post shot target maneuvers. 2 post notch and in to the merge short-range radar mechanics. 1 complete intercept requiring a combination of the above skills.

Performance Standards

Uses proper communications throughout all phases of the intercept.  
Execute proper sort/maneuvering targets/SRR mechanics IAW the USMC TACSOP.  
Appropriate defensive reactions.

AA-265

1.3 R 2 FA-18A/C/D vs. 2 Dissimilar Adversaries A

Goal. Practice section maneuvering against (dissimilar) adversaries armed with IR-3 missiles from offensive, neutral, and defensive starts.

Requirement. One defensive engagement by a single adversary from a visual set and multiple entries from any aspect (by single adversary and section) in a tap-the-cap scenario are required for completion. No kills should occur prior to the initial merge for each engagement.

Performance Standards

Adheres to USMC Admin SOP.  
Detect via SRR/RWR and visual lookout.  
Accurate ID.  
Effective section engaged maneuvering.  
Takes valid shots.

Prerequisite. AA-262, SAA-264.

Ordinance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. AA, EXP.

External Syllabus Support. Two (dissimilar) adversaries.

SAA-266

1.0 WTT/OFT S

Goal. Conduct radar attacks against an unknown number of bandits with SAR-1 missiles. Emphasize section intercept

procedures, sorting, RWR tactics, weapons employment, and standardized communications.

Requirement. With a minimum of 40 NM separation, the fighters commence the intercept at medium altitude. The bogies commence the intercept at any altitude and airspeed, maneuvering. Fighter weapons control status is tight with PID criteria set by flight lead according to theater of operation. On this sortie, PID criteria will be satisfied in time to allow BVR weapons employment. Four intercepts required for completion.

Performance Standards

Uses proper communications throughout all phases of the intercept.  
Arrives at a valid forward quarter or rear quarter weapons envelope.  
Takes valid shots.  
Appropriate defensive reactions.

Prerequisite. SAA-264.

SAA-267

1.0 R WTT/TOFT S

Goal. Conduct intercept against bogies with SAR-1 and IR-3 missiles in an EA environment.

Requirement. With a minimum of 40 NM separation, the fighters commence the intercept at medium altitude. The bogies commence the intercept at any altitude and airspeed, maneuvering. Bogies should use self-protect jamming techniques or be screened by a stand-off jammer. Fighter weapons control status is tight with PHID criteria set by flight lead according to theater of operation. Three intercepts required for completion.

Performance Standards

Uses proper communications throughout all phases of the intercept.  
Executes proper radar mechanics in a EA environment.  
Recognizes threat tactics and different jamming techniques.  
Takes valid shots.  
Timeline awareness.

Prerequisite. SAA-266.

AA-268

1.3 R 2 FA-18A/C/D vs. 2 Adversaries A

Goal. Conduct radar attacks against an unknown number of bandits with SAR-1 missiles. Emphasize section intercept procedures, sorting, RWR tactics, weapons employment, and standardized communications.

Requirement. With a minimum of 40 NM separation, the fighters commence the intercept at medium altitude. The bogies commence the intercept at any altitude and airspeed, maneuvering. Fighter weapons control status is tight with PID criteria set by flight lead according to theater of operation. On this sortie, PID criteria will be satisfied in time to

allow BVR weapons employment. Four intercepts required for completion.

Performance Standards

Maintains mutual support.  
Utilizes clear, concise communications IAW comm. brevity.  
Arrives at a valid forward quarter or rear quarter weapons envelope.  
Takes valid shots.  
Appropriate defensive reactions.

Prerequisite. AA-265, SAA-266.

Ordnance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft, and CATM-7/120.

Range Requirements. AA, EXP, MACH 1+, TACTS.

External Syllabus Support. Two (Dissimilar) Adversaries.

AA-269

1.3 R 2 FA-18A/C/D vs. 2 Dissimilar Adversaries A

Goal. Practice section VID intercepts versus a section of non-maneuvering/maneuvering bandits armed with SAR-1 missiles. Focus on radar mechanics, formation, communications, tactical timeline employment, and VID intercept mechanics.

Requirement. Commence the intercept with a minimum of 40 NM separation. Fighter weapons control status is tight with a PHID criteria that prevents weapons employment until a VID. Bandits weapons control status is unknown. Bandits will commence intercepts from between 1,000 ft and 40,000 ft and are cleared to maneuver. Bandits will maintain sortable formations throughout the intercepts and all bandit tactics will be complete NLT 15 NM prior to the merge. Three intercepts required for completion.

Performance Standards

Manages fuel per the brief.  
Utilizes clear, concise communications IAW comm. brevity.  
Achieve radar sort.  
Maintain mutual support.  
Execute the briefed VID game plan.  
Achieve valid shot at the merge.

Prerequisite. AA-268.

Ordnance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft, and CATM-7/120.

Range Requirements. AA, EXP, MACH 1+, TACTS.

AA-270

1.3 4 FA-18A/C/D vs. Unknown Adversaries A

Goal. Conduct a Division Fighter Mission against an unknown number of adversaries with SAR-1 and/or IR-3 missiles. Emphasize commit criteria, reset criteria, desired engagement

zone, targeting/sorting, on-board/off-board PHID, valid weapons employment, and standardized communications.

Requirement. With a minimum of 40 NM separation, the fighters commence the intercept against single or multiple groups. Fighter weapons control status is tight with PHID criteria that will allow for weapons employment according to timeline.

Adversaries present a level 3 or 4 bandit simulation IAW the USMC FA-18 TACSOP. On one intercept, PHID criteria will not be satisfied.

Performance Standards  
Maintains mutual support.  
Executes proper radar mechanics.  
Targets as directed. Recognizes threat tactics.  
Takes valid shots.

Prerequisite. AA-269.

Ordnance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft, and CATM-7/120.

Range Requirements. AA, EXP, MACH 1+, TACTS.

External Syllabus Support. Minimum 2 adversaries.

7. Low Altitude Tactics (LAT)

a. Purpose. To develop proficiency in FA-18 low altitude tactics.

b. General

(1) Emphasize LAT procedures, communications, and maneuver techniques. Upon completion of the LAT stage, aircrew should be able to perform low altitude navigation, tactical ingress into a defended target at low altitude, and execute defensive maneuvers against surface-to-air or air-to-air threats.

(2) Flights shall be flown on an approved LAT course.

(3) SLAT-280 requires supervision of a LATI at the simulator console. LAT-281 and 282 require a LATI chase when the aircrew is not LAT qualified.

(4) Currency and altitude restrictions as stated in the T&R Program Manual apply.

(5) Aircraft should be configured with an operable VTR/CVRS, ALR-67, CATM-9, TPOD, KY-58, and chaff and flares.

(6) Upon completion of this stage, aircrew may be designated LAT qualified by their commanding officer.

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

d. Flight and Simulator Event Training. (3 Events, 3.6 Hours).

SLAT-280

1.0

WTT/OFT S

Goal. Practice two dimensional and three dimensional LAT and threat reactions. Emphasize LAT procedures, communications, and maneuver techniques.

Requirement. Perform 50% dive recoveries, Nav/Hard/Break turns, MAC, vertical jinks, straight ahead oblique jinks, turning oblique jinks, reverse oblique jinks and threat reactions.

Performance Standards

Recites all LAT rules from memory without error.  
Quickly responds to commands.  
Performs maneuvers as briefed.  
Remains above briefed minimum altitude.  
Adheres to dive recovery rules.

Prerequisite. AS-230-243.

LAT-281

1.3

R 2 FA-18A/C/D A

Goal. Develop proficiency in single ship conventional LAT. Emphasize LAT procedures, communications, and maneuver techniques.

Requirement. As a single ship, complete a circuit performing descent to comfort level, straight and level, ridgeline crossings, speed rush base line, and Nav/Hard/Break turns. Complete a second circuit performing 50 % rule, vertical jinks, straight ahead oblique jinks, turning oblique jinks, and reverse oblique jinks. Complete a third circuit performing 50% rule, guns jink, level S, SAM weave and SAM break.

Performance Standards

Quickly responds to commands from chase aircraft.  
Performs maneuvers as briefed.  
Remains above briefed minimum altitude.  
Adheres to dive recovery rules.

Prerequisite. SLAT-280.

Ordinance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. LAT.

LAT-282

1.3

2 FA-18A/C/D A

Goal. Develop proficiency in section conventional LAT and low altitude intercepts. Emphasize LAT procedures, communications, and maneuver techniques.

Requirement. Complete one circuit performing section descent to comfort level, straight and level, ridgeline crossings, and section called/uncalled turns. Complete a second circuit performing section threat reactions to section target attack. Complete a third circuit performing low altitude intercept

with the fighter at 300-500' AGL and the adversary at 600-1000' AGL.

Performance Standards

Uses standardized communication.  
Able to fly maneuvers in accordance with LAT rules.  
Performs maneuvers as briefed.  
Valid delivery IAW USMC TACSOP.  
Takes valid shots.

Prerequisite. LAT-281.

Ordnance. CATM-9, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. LAT.

8. Close Air Support (CAS)

a. Purpose. To develop proficiency in the tactical employment of the FA-18 in the CAS role during day and night at medium altitude in a low to medium threat environment.

b. General. The commanding officer may authorize inert ordnance in lieu of live ordnance when necessary. Ensure required ordnance not available (TRK-598) code is logged. Aircraft should be configured with operable VTR/CVRS, ALR-67, CATM-9, TPOD, LDT, KY-58, DCS/VMF, MIDS, chaff, and flares. At the completion of this stage the PUI should be able to:

(1) Demonstrate proficiency in the execution of CAS under Type 1 attack control, day and night, from medium altitude.

(2) Deliver GP and forward firing ordnance on tactical targets both day and night in the CAS environment.

(3) Employ GP ordnance using reactive weaponeering principles.

(4) The aircrew should be familiar with the use of the following external agencies and how to integrate them in the CAS stage:

(a) MACCS integration.

(b) Supporting arms.

(c) Forward Air Controllers (FAC)/Joint Terminal Attack Controller (JTAC)/FAC Airborne (A).

(5) All actual and simulated weapons deliveries will be validated IAW the USMC FA-18 TACSOP.

c. Ground/Academic Training. See MAWTS-1 Course Catalog.

d. Flight and Simulator Event Training. (3 Events, 3.6 Hours).

SCAS-290      1.0                      R WTT/OFT S

Goal. Review CAS execution using Type 1 terminal attack control.

Requirement. Conduct three attacks under Type 1 terminal attack control. Emphasize systems management, target area mechanics, reactive weaponeering, threat countertactics and tactical communication.

Performance Standards

Compliance with JCAS TTPs.  
Effect on target.  
Compliance with TAC abort parameters.  
Valid weapons release.  
TOT +/- 15 secs.

Prerequisite. SAS-230, AS-243.

Ordnance. 4 MK-82/3, 250 Rounds 25mm, TPOD and SEL 1.

CAS-291

1.3 R 2 FA-18A/C/D A

Goal. Conduct day CAS execution using Type 1 terminal attack control.

Requirement. Conduct three attacks under Type 1 terminal attack control. Emphasize systems management, target PID, target area mechanics, reactive weaponeering, threat countertactics and tactical communication.

Performance Standards

Compliance with JCAS TTPs.  
Compliance with TAC abort parameters.  
Valid delivery IAW USMC TACSOP.  
Execution appropriate threat countertactics.  
TOT +/- 15 secs.

Prerequisite. SCAS-290.

Ordnance. 4 Mk-82/83, 250 rnds of 20mm, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, TGT, SST, JCAS, TGT-MOVE, TGT-DISP.

External Syllabus Support. JTAC or FAC(A).

CAS-292

1.3 R 2 FA-18A/C/D A NS

Goal. Conduct night CAS execution using Type 1 terminal attack control.

Requirement. Conduct 3 attacks under Type 1 terminal attack control. Emphasize systems management, target PID, target area mechanics, IR marker employment if applicable, reactive weaponeering, and tactical communication.

Performance Standards

Compliance with JCAS TTPs.  
Compliance with TAC abort parameters.  
Valid delivery IAW USMC TACSOP.

Execution appropriate threat countertactics.  
TOT +/- 15 secs.

Prerequisite. NS-254, CAS-291.

Ordnance. 4 Mk-82/83, 250 rnds of 20mm, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, TGT, SST, JCAS, TGT-MOVE, TGT-DISP.

External Syllabus Support. JTAC or FAC(A).

132. CORE SKILL ADVANCED PHASE (300 LEVEL) TRAINING

1. General. This phase trains FA-18 A/C/D aircrew in OAS, AAW, and SEAD, and FA-18D aircrew FAC(A) and TAC(A). Completion of the 300 level syllabus is a prerequisite to start the section lead buildup syllabus (FAC(A) not withstanding).

2. Close Air Support (CAS)

a. Purpose. To develop proficiency in the tactical employment of the FA-18 in Type 2 and 3 CAS during day and night. Additionally, develop proficiency in urban CAS techniques.

b. General. The commanding officer may authorize inert ordnance in lieu of live ordnance when necessary. Ensure required ordnance not available (TRK-598) code is logged. Aircraft should be configured with operable VTR/CVRS, ALR-67, CATM-9, TPOD, LDT, KY-58, DCS/VMF, MIDS, chaff, and flares when possible. At the completion of this stage the PUI should be able to:

(1) Demonstrate proficiency in the execution of CAS under Type 2 and 3 terminal attack control, day and night, at medium altitude as a wingman.

(2) Demonstrate proficiency executing CAS in an urban environment.

(3) Deliver free fall, forward firing, and precision guided munitions on tactical targets both day and night in the CAS environment.

(4) Employ free fall ordnance using reactive weaponeering principles.

(5) The aircrew should be familiar with the use of the following external agencies and how to integrate them in the CAS stage:

(a) MACCS integration.

(b) Supporting arms.

(c) Forward Air Controllers (FAC)/Joint Terminal Attack Controller (JTAC)/FAC Airborne (A).

(d) All actual and simulated weapons deliveries will be validated IAW USMC FA-18 TACSOP.

c. Ground/Academic Training. See MAWTS-1 Course Catalog.

d. Flight and Simulator Event Training. (4 Events, 4.9 Hours).

SCAS-300

1.0

WTT/OFT S

Goal. Conduct CAS execution using Type 2 terminal attack control.

Requirement. Conduct three attacks under Type 2 terminal attack control. Emphasize systems management, target area mechanics, reactive weaponeering, threat countertactics and tactical communication.

Performance Standards

Compliance with JCAS TTPs.  
Compliance with TAC abort parameters.  
Valid delivery IAW USMC TACSOP.  
TOT +/- 15 secs.

Prerequisite. 200 Level complete.

Ordnance. 2 JDAM, 2 GBU-10/12/16.

CAS-301

1.3

R 2 FA-18 A/C/D A

Goal. Conduct day CAS using Type 2 and 3 terminal attack control.

Requirement. Conduct two attack under Type 2 terminal attack control and one attack under Type 3 terminal attack control. Emphasize systems management, target PID, PGM employment, threat countertactics and tactical communication.

Performance Standards

Compliance with JCAS TTPs.  
Compliance with TAC abort parameters.  
Valid delivery IAW USMC TACSOP.  
Execution appropriate threat countertactics.  
TOT +/- 15 secs.

Prerequisite. SCAS-300.

Ordnance. 1 GBU-31/32/38, 2 GBU-10/12/16, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, TGT, SST, EW, JCAS, TGT-DISP, TGT-MOVE, JDAM.

External Syllabus Support. JTAC or FAC(A).

CAS-302

1.3

R 2 FA-18 A/C/D A NS

Goal. Conduct night CAS using Type 2 and 3 terminal attack control.

Requirement. Conduct two attacks during night under Type 2 terminal attack control and one attack under Type 3 terminal