

NAVAL AIR TRAINING COMMAND



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CHIEF OF NAVAL AIR TRAINING



ADVANCED E-2 NAVAL FLIGHT OFFICER TRAINING SYSTEM (NFOTS) CURRICULUM

2020



DEPARTMENT OF THE NAVY
CHIEF OF NAVAL AIR TRAINING
250 LEXINGTON BLVD SUITE 102
CORPUS CHRISTI TX 78419-5041

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CNATRA INSTRUCTION 1542.181

From: Chief of Naval Air Training

Subj: ADVANCED E-2 NAVAL FLIGHT OFFICER TRAINING SYSTEM (NFOTS)
CURRICULUM

1. Purpose. To publish curriculum for training Undergraduate Naval Flight Officers (NFOs) in the Advanced phase of Naval Air Training Command (NATRACOM) flight Training.
2. Cancellation. CNATRAINST 1542.171 will be cancelled when the last student enrolled completes the curriculum.
3. Action. This curriculum is effective on receipt. No changes will be made without written authorization by the Chief of Naval Air Training (CNATRA).
4. Records Management. Records created, as a result of this instruction, regardless of media and format, must be managed per Secretary of the Navy Manual 5210.1 of January 2012.
5. Review and Effective Date. Per OPNAVINST 5215.17A, CNATRA N7 will review this instruction annually on the anniversary of its effective date to ensure applicability, currency, and consistency with Federal, DoD, SECNAV, and Navy policy and statutory authority using OPNAV 5215/40 Review of Instruction. This instruction will automatically expire 10 years after effective date unless reissued or canceled prior to the 10-year anniversary date, or an extension has been granted.
6. Forms. The CNATRA forms required by this instruction are automated in the Training Learning Management System (T/LMS) computer program. Additional copies of CNATRA forms are available on the CNATRA website <https://www.cnatra.navy.mil/pubs/forms.htm>.


S. B. STARKEY
Chief of Staff

Releasability and distribution:

This instruction is cleared for public release and is available electronically only via Chief of Naval Air Training Issuances Website, <https://www.cnatra.navy.mil/pubs-instructions.asp>.

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COURSE DATA

1. Course Title. Advanced E-2 Naval Flight Officer Training System (NFOTS) Curriculum.
2. Course ID Number (CIN). Advanced E-2 NFOTS, Q-2D-0181.
3. Location. Naval Air Station (NAS) Pensacola.
4. Course Status. Active.
5. Course Mission. The mission of Advanced E-2 NFOTS training is to qualify student Naval Flight Officer (NFO) graduates for follow-on Fleet Replacement Squadron (FRS) flight training. The Advanced E-2 NFOTS curriculum gives students the skills necessary to succeed in their career as E-2 Naval Flight Officers and at the successful completion of this syllabus, the student will be designated a Naval Flight Officer.
6. Prerequisite Training. Successful completion of Primary NFOTS Training (Q-9B-0020) and Intermediate MC2 NFOTS Training (Q-2D-0180).
7. Security Clearance Requirements. None.
8. Follow-on Training. Assigned by the graduate's parent service.
9. Course Length. Overall time-to-train is calculated in accordance with CNATRAINST 1550.6F. Training Days account directly or provide margin for factors including personnel and equipment availability, briefing and preparation time, and historical delays. Calendar Weeks further account for weekends, holidays, safety stand-downs, and other expected non-working days.

	<u>Training Days</u>	<u>Calendar Weeks</u>
Advanced E-2 NFOTS	35.3	7.8

10. Class Capacity. Variable.
11. Instructor Requirements. As established by Chief of Naval Operations (CNO) planning factors.
12. Course Curriculum Model Manager. Commander, Training Air Wing SIX (COMTRAWING SIX).
13. Quota Management Authority. Chief of Naval Air Training (CNATRA).

14. Quota Control. CNO.

15. Course Training Subjects

a. Ground Training

ADVANCED E-2 ADMINISTRATION		
Stage	Symbol	Hours
Advanced E-2 NFOTS Check-in and Checkout	ADM01-2	5.0
Totals		5.0

ADVANCED E-2 GROUND TRAINING		
Stage	Symbol	Hours
Airborne Early Warning (AEW)	E0101-7	15.0
AEW Exam	E0108	1.5
AEW Exam Remediation and Critique	E0109	0.5
Air Intercept Control (AIC)	E0201-5	14.0
AIC Exam	E0206	1.5
AIC Exam Remediation and Critique	E0207	0.5
Totals		33.0

b. Simulator Support

ADVANCED E-2 FLIGHT SUPPORT		
Stage	Symbol	Hours
AEW Flight Support	E1101-3	14.0
AIC Flight Support	E1201-7	28.0
Totals		42.0

Note: Simulator Support totals include 9.0* hours accomplished as Event Rehearsal time in the MCS. These hours are also included on the Simulator Training table.

c. Simulator Training

ADVANCED E-2 SIMULATOR TRAINING			
Events	Symbol	MCS	
		Flts	Hrs
AEW Event Rehearsal	E1102	1	3.0
AIC Event Rehearsal	E1202	1	3.0
TCC Event Rehearsal	E1206	1	3.0
AEW	E3101-6	6	9.0
AIC	E3201-11	11	16.5
AIC Check Flight	E3390	1	1.5
Totals		21	36.0

Note: Event Rehearsals are formally scheduled events, which will be accomplished in the MCS with an INFO assigned.

16. Training Time Analysis. In addition to the hours formally planned and scheduled for academic classes and simulator events, significant additional time to prepare and study outside of scheduled training hours should be expected by the Student Naval Flight Officer (SNFO). The amount of time will vary depending on the complexity of the material and individual student needs, and may be up to several hours per event. For simulator events, specific brief times will be programmed into the CNATRA approved Training/Learning Manager Management System (T/LMS) and accounted for on the flight schedule, per the following table:

ADDITIONAL FORMAL TRAINING TIME PER CURRICULUM HOUR/EVENT			
Training Area	Brief	Debrief	Total
E-2/Simulator Events: All Others (INFO)	1.0	1.0	2.0

17. Physical Requirements. As specified in the Manual of the Medical Department, Chapter 15, and all applicable anthropometric standards.

18. Obligated Service. Refer to MILPERSMAN for Naval personnel.

19. Primary Instruction Methods. Lecture, Mediated Interactive Lecture (MIL), Computer Assisted Instruction (CAI), 2B51 Multi-Crew Simulator (MCS), and self- and group-paced study.

20. Preceding Curriculum Data. None.

21. Student Performance Measurement/Application of Standards. The standards outlined in Chapter IX, Course Training Standards (CTS), are used to evaluate performance for all items on all events. Final judgment regarding the satisfactory performance of any item rests with the instructor. Refer to CNATRAINST 1500.4J, Chapter 6, for further guidance.

ABBREVIATIONS

The following is a list of abbreviations used in the curriculum:

ADMIN	-	Administration
AEW	-	Air Defense Identification Zone
AIC	-	Aeronautical Information Manual
ASI	-	Air Interdiction of Maritime Target
ATF	-	Aviation Student Indoctrination
ATJ	-	Anti-Surface Warfare
BRAA	-	Air Traffic Control
CAI	-	Aviation Training Form
CAP	-	Aviation Training Jacket
CAS	-	Battle Damage Assessment
CNATRA	-	Computer-Assisted Instruction
CO	-	Critical Contact of Interest
COMM	-	Course Deviation Indicator
COMTRAWING SIX	-	Commander, Training Air Wing SIX
CO-PC	-	Commanding Officer Progress Check
CPA	-	Closet Point of Approach
CRM	-	Crew Resource Management
CTS	-	Course Training Standards
CWC	-	Commander, Training Air Wing SIX
DCA	-	Crew Resource Management
DOR	-	Course Training Standard(s)
EOB	-	Composite Warfare Commander
EP	-	Drop On Request

EO	-	Electro-Optical
ER	-	Event Rehearsal
ES	-	Electronic Support
ESM	-	Electronic Support Measure
ET	-	Extra Training
FAM/Fam	-	Familiarization stage; also abbreviation for Familiarization
FEZ	-	Fighter Engagement Zone
FMS	-	Flight Management System
FRS	-	Fleet Replacement Squadron
FTI	-	Flight Training Instruction
GPS	-	Global Positioning System
H/X	-	Hours Per Event
IAW	-	In Accordance With
ICS	-	Intercommunication System
IFF	-	Identification Friend or Foe
IFR	-	In Flight Report
INFO	-	Instructor Naval Flight Officer
INS	-	Inertial Navigation System
IPC	-	Initial Progress Check
JEZ	-	Joint Engagement Zone
MC2	-	Maritime Command and Control
MCG	-	Master Curriculum Guide
MCS	-	Multi-Crew Simulator
MEZ	-	Missile Engagement Zone
MIF	-	Maneuver Item File

MIL	-	Mediated Interactive Lecture
MPR	-	Maritime Patrol and Reconnaissance
N/A	-	Not Applicable
NAV/Nav	-	Operational Flight Planning, Flight Instruments, and Navigation; also abbreviation for Navigation
NCI	-	Near Collision Intercept
NFO	-	Naval Flight Officer
NFOTS	-	Naval Flight Officer Training System
NG	-	No Grade
NLT	-	No Later Than
NM	-	Nautical Miles
NSS	-	Naval Standard Score
OAS	-	Offensive Air Support
OCA	-	Offensive Counter Air
OLQ	-	Officer Like Qualities
OPS	-	Operations
OPSO	-	Operations Officer
OPTASK	-	Operational Tasking
PAS	-	Phase Aggregate Score
PHID	-	Phase Hostile Identification
PID	-	Positive Identification
RADAR	-	Radio Detection and Ranging
ROE	-	Rules of Engagement
RRU	-	Ready Room Unsatisfactory
SA	-	Situational Awareness
SATCOM	-	Satellite Communications

SIM	-	Simulator
SNFO	-	Student NFO
SOP	-	Standard Operating Procedure
SS	-	Self-Study
SSR	-	Special Syllabus Requirement
TCC	-	Tactical Crew Coordination
TRAWING	-	Training Air Wing
TRB	-	Training Review Board
TTO	-	Training Time Out
UNSAT	-	Unsatisfactory
XO	-	Executive Officer

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GLOSSARY

1. Advancing X. Completed event within the normal syllabus flow generally. Excludes events with last characters in the range 84-89 unless specified by CNATRAINST 1500.4J.
2. Aviation Training Form (ATF). Any form used to document training performance in the Naval Aviation Training Command pipelines (computer generated grade sheets and supplemental administrative documents).
3. Aviation Training Jacket (ATJ). A complete administrative record of all aviation training received while attending flight training at Naval Aviation Training Command (NATRACOM) activities. It contains ATFs, calendar card, grade reports, and all other associated training information. ATJs are maintained in student control and follows the students through all phases of training.
4. Block of Training. A sequential series of lessons within a training stage sharing identical MIFs. The second numerical character in the lesson designator identifies a block.
5. Blue ATF. A document that states the purpose and background for CO-directed ET sortie(s) that is printed on blue paper. This document is filed on the left side of the student ATJ.
6. Check Flight (SXX90). A check event in any stage of training.
7. Class Advisor. An INFO assigned to each class as mentor and advisor to monitor student progress, assist when difficulties arise, and instill the Naval Aviation culture.
8. Commanding Officer Progress Check (CO-PC) (SXX89). A progress check either directed by the Commanding Officer or triggered by NFS performance. A satisfactory CO-PC returns the student to normal syllabus flow. An UNSAT CO-PC results in a TRB.
9. Course of Training. The entire program of simulation, academics, and officer development conducted in all media during the programmed training days.
10. Course Training Standard (CTS). CTS define the behavior associated with each maneuver and standards or tolerances recommended for successful stage completion. These standards are defined in Chapter IX.
11. Courseware. The technical data, FTIs, audio, video, film, CAI, MIL, instructor guides, student study guides, and other training material developed to *support* and implement the syllabus of instruction.

12. Deliverables. A CNATRA 1542/1827 TRB Summary Form generated by the TRB that summarizes a specific student's progress in a given syllabus and provides detailed information on the application of NFO training for that student. Deliverables indicate whether the quality and continuity of training provided was IAW CNATRAINST 1542.181.
13. Drop on Request (DOR). The self-initiated termination of training. Anytime a student makes a statement such as "I quit" or "DOR," they shall be immediately removed from the training environment and referred to the training officer for administrative action.
14. Emergency Procedures (EP). An established procedure used by aircrew to assist in safely controlling the aircraft in the event of a flight control failure or airborne emergency.
15. End of Block (EOB). Last event in a block. The student must meet or exceed MIF on all mandatory items in the block to progress past EOB.
16. Event. A scheduled period of prescribed instruction. It may be in an academic or laboratory classroom, a simulator, or flight environment.
17. Event Rehearsal (ER). A hard scheduled flight support simulator event designed to prepare the student for the next block of simulator training. This event may be scheduled as student only, or it may require the addition of an IOS operator to assist the student in using the training device. This requirement will be specified for each event
18. Extra Training (ET) (SXX87). Extra training may be authorized by the squadron Commanding Officer to allow for correction of a training deficiency, or skillset deficiency.
19. Flight Training Instruction (FTI). Training publications that define maneuvers and acceptable performance standards for each maneuver the student is expected to perform. Each FTI covers one or more stages of instruction.
20. Hours per Event (H/X). The resourced duration for each event, rounded to the nearest tenth of an hour.
21. Initial Progress Check (SXX88). A special check given by an experienced instructor (senior O-3 or above) as designated in writing by the CO. A satisfactory IPC returns the student to normal syllabus flow. An IPC can count as a progressing event at the CO's discretion. An UNSAT IPC results in a CO-PC.
22. Lesson Designator. All syllabus events have a lesson designator consisting of a stage identifier of up to three letters and an event code of four numbers representing order and required resourcing. Refer to the CNATRA 1550.6F for further information.

Char	Meaning	Remarks
1 st - 3 rd	Stage	ADM - Administration E - Advanced E-2
4 nd	Media	0 - Ground Event 1 - Academics 2 - CPT 3 - Simulator 4 - Aircraft
5 th	Block	Sequential, indicating block within stage.
6 th & 7 th	Event/ Check Identifier	Sequential, indicating event within block, or other event types as shown below: 84 - Adaptation Flight 85 - Practice Sim 86 - Warmup 87 - Extra Training 88 - Initial Progress Check 89 - Final Progress Check 90 - Check Flight

23. Mandatory Item. Any maneuver coded with a plus sign (+). This symbol indicates the maneuver is required and must be accomplished to the specified standard in that block of training.
24. Maneuver Item File (MIF). A chart listing the required maneuvers and associated proficiency levels for a particular block of flight training.
25. Master Curriculum Guide (MCG). A publication tailored to a specific phase of training.
26. Phase of Training. The chief subdivisions of a course. The E-2 NFO training is comprised of Primary, Intermediate MC2, and Advanced E-2 NFOTS phases of training.
27. Pink ATF. A standard ATF that is printed on pink paper. The pink ATF is used to denote an UNSAT event.
28. Progress Check (SXX88/SXX89). A student check event within a given stage of training administered by an experienced instructor IAW the CNATRINST 1500.4J.
29. Progress Check Instructor. An INFO authorized by the CO to administer Initial or Command Directed Progress Checks.
30. Ready Room Unsatisfactory (RRU). An UNSAT grade given for inadequate knowledge of flight procedures, systems, discuss items, emergency procedures, or deficient preflight planning or failure of a non-academic examination (e.g., NATOPS quiz/exam). Missing a brief does not

constitute an RRU and shall be documented on a supplemental ATF. Refer to CNATRAINST 1500.4J, Ch. 6 for further information on missed briefs.

31. Self-Study Events (SS). A hard scheduled flight support ground event designed to prepare the student for the next block of simulator training. This event may be scheduled as a monitored classroom event or it may be scheduled as individual unsupervised study time.

32. Special Syllabus Requirement (SSR). One-time, ungraded demonstration item(s).

33. Stage. A subdivision of a phase, comprised of events leading to a single set of objectives, designated by a common symbol (e.g., Radio Instruments, Carrier Qualification). Refer to CNATRAINST 1550.6F, Appendix D, for further information.

34. Standard Operating Procedure (SOP). An instruction or directive that provides guidance on TRAWING or squadron operating rules for local aircraft.

35. Training Media. NFOTS Advanced MC2 media include simulator (2B51), simulator support and ground training. Simulator support lectures may consist of MILs, off-line lectures (LECT), CAI lessons, and exams. The second character in the lesson identifier designates the training media. Refer to CNATRAINST 1550.6F for further information.

36. Training Review Board (TRB). A fact-finding board appointed to conduct an administrative review of training following a failed CO-PC. Refer to CNATRAINST 1500.4J for further information.

37. Training Time Out (TTO). A pause in training when a NFS or instructor expresses concern for personal safety or a need exists to clarify procedures or requirements. Either the NFS or Instructor may call a TTO.

38. Warmup Event(s) (SXX86). Additional event(s) given to allow a student to regain a level of proficiency previously demonstrated which has diminished due to a non-syllabus break in training.

Chapter I

General Instructions

1. Syllabus Management

- a. Distribution. Participating TRAWING and squadron personnel.
- b. Interpretation. The syllabus is directive. Should circumstances create situations not covered within the scope of this syllabus, or specific course of action appears to conflict with other directives, consult CNATRA (N71).
- c. Deviations. Document all deviations on the event's ATF.
- d. Changes. Recommended changes shall be submitted IAW CNATRAINST 1550.6F.
- e. Execution. All students execute Chapters II through VIII.
- f. Syllabus Description. Intermediate MC2 NFOTS events are executed in the 2B51 Multi-Crew Simulator (MCS) training platform and divided into stages. Stages are grouped by similar flight training regimes such as Familiarization or Navigation. Each stage may be subdivided into training blocks. If so, the training blocks consist of a specified number of events. MIFs identify the minimum acceptable level of performance in relation to the CTS that must be achieved at the completion of each training block.
- g. Grade Calculation
 - (1) Phase Aggregate Score (PAS). PAS is a comparative ranking based on the NFS's performance on a group of events compared against that of a previous population of completers for the same set of events.
 - (2) Naval Standard Score (NSS). A representation of any score relative to the average score. The scale is artificially centered at 50 (that is, 50 is average). Each NSS is a whole number and the scale is truncated at 20 and 80.
 - (3) NFOTS SNFO Calculations. Refer to the CNATRAINST 1500.4J for SNFO PAS and NSS calculations.

2. Training Management

- a. Syllabus Progression

(1) Other than noted exceptions, syllabus events shall be flown sequentially within each stage. Blocks shall not be started without all prerequisites completed. Students must complete all events in their assigned phase unless enrolled in an approved accelerated syllabus.

(2) Flowchart on page I-5 is a depiction of NFOTS Advanced E-2 NFOTS course flow and delineates the sequence of events and their ground training prerequisites. System training management is designed to facilitate up to two graded events (simulator or exam, or combination thereof) per student per day.

(3) The first event in stage must be completed within 14 calendar days of the associated simulator event support lecture. The associated simulator event support lecture must be redone if 14 or more days have elapsed.

(4) The first event in stage cannot be completed the same day as the associated simulator event support lecture(s).

b. Maneuver Continuity. Students should be allowed to attempt previously introduced maneuvers frequently enough to maintain required proficiency.

c. Hours per Event (H/X). Instructors shall plan and execute missions to meet H/X as closely as possible. If actual sortie length varies from H/X by more than 0.3 hours, the instructor shall annotate the reason in the ATF general comments section. This only applies to flight events, as simulator events should be conducted for the entire syllabus event H/X stated in the respective MCG. Refer to CNATRINST 1500.4J, section 605, for further clarification.

d. Location of Training. Due to the unique nature of Advanced E-2 NFOTS training, student events shall be accomplished at home station.

e. Special Syllabus Requirements (SSR). Unless noted otherwise, instructors may accomplish SSRs on any event within the block. Annotate which were completed in the ATF's Maneuver Comments section. Assign NG/1 as the SSR maneuver grade and annotate date of exposure on the SSR tab.

f. Aviation Training Jacket (ATJ) Reviews. The Class Advisor (CA) shall conduct jacket reviews IAW CNATRINST 1500.4J.

3. Unsatisfactory (UNSAT) Performance. All training shall be suspended following an UNSAT event, except as addressed or authorized per this MCG.

a. Event Progression. Following an UNSAT event, if a PC is not required, that event shall be repeated until the NFS satisfactorily passes the event.

b. Remediation. Remediation of unsatisfactory performance may be specifically tailored to address deficient skillsets.

c. Ready Room UNSAT (RRU). A missed brief does not constitute a RRU. Missed briefs shall be documented on a Supplementary ATF and counseling or discipline shall be administered as directed by the squadron CO. RRU is defined as either of the following:

(1) A NFS is inadequately prepared for the scheduled event. The RRU always trigger a Progress Check, so they shall always be documented on a pink version of the event's ATF. The event will be marked as incomplete with a U/2 grade in the appropriate graded item column, (e.g., General Knowledge, Procedures, etc.). Upon successful completion of the Progress Check, the original RRU event shall be flown as a take two (or greater) to complete all remaining, or appropriate items, graded as a normal event.

(2) The NFS fails a nonacademic examination (e.g., NATOPS quiz).

d. Academic. An academic examination failure is UNSAT and counts towards PC triggers.

e. Simulator UNSAT. A simulator UNSAT may be awarded anytime following the successful completion of an event brief; RRUs may not be awarded after this point. Unsatisfactory performance for simulator events is defined in CNATRAINST1500.4J, Chapter 7.

4. Training Review Board. The TRAWING Commander shall conduct a TRB on all NFSs recommended for attrition. Refer to the CNATRAINST 1500.4J for additional information and guidance.

5. Training Delays and Warmup Events Within Stage

A Warmup (WU, SXX86) event is given to regain flight proficiency due to a training delay. Eligibility is based on the number of days since the last stage syllabus event, in the simulator. WU criteria are normally based on last event in stage because MPTS/MNTS is built on increasing levels of skill attainment between blocks or stand-alone events. Every WU event shall ensure required skills for that stage are refreshed. All Warmup events shall be coded as a SXX86 (e.g., E3186). Refer to CNATRAINST 1500.4J for Warmup event guidelines.

a. Optional WUs shall be scheduled and flown as the next event. If performance warrants a WU, it shall be re-coded as the last completed event.

b. Mandatory WUs shall be scheduled and flown as the last completed event or as directed by the Commanding Officer. The event shall be coded as a WU (SXX86).

c. Individual maneuver grades on WU events will not count toward calculation of NFS stage and phase grades. WU events are however eligible for overall event UNSAT if a significant incident not related to the stage discontinuity occurred.

d. If the break in training occurs between two simulator events, a mandatory WU shall be flown and coded as the last completed event.

e. The instructor shall document on the ATF the reason and circumstances for awarding the WU event.

f. Check events (SXX90) are considered part of the stage for which they are checking for WU purposes.

g. The following table is a quick reference regarding the use of WUs with respect to stage continuity, or breaks in training:

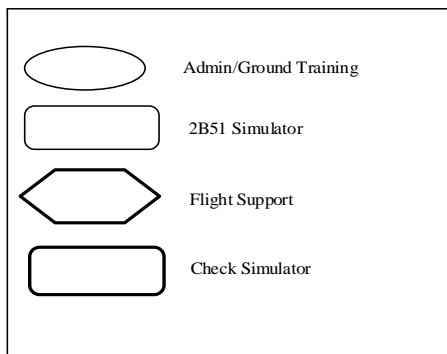
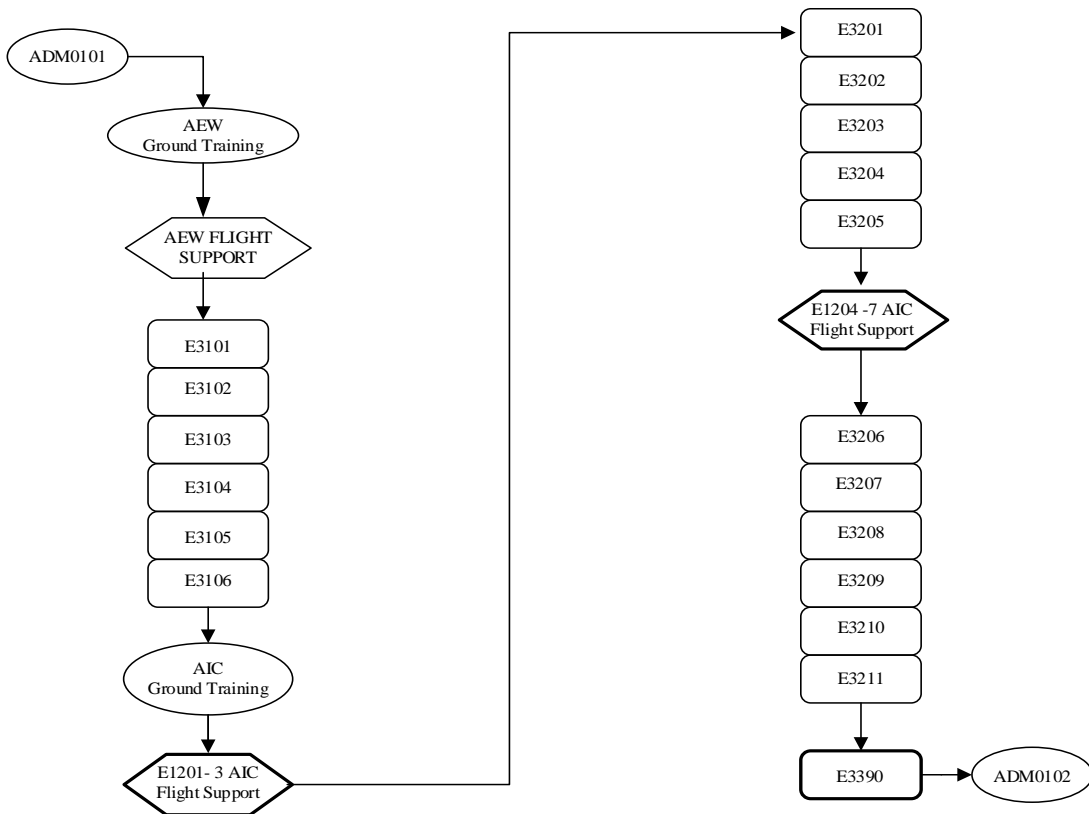
CRITERIA FOR AWARDING WARMUP EVENTS IN STAGE		
BREAKS*(DAYS)	WARMUP EVENTS	REMARKS
7-13 All Others	1 Optional or 1 Mandatory (if Required)	–Optional WU is based on performance and is required if overall grade is UNSAT. –WU is prohibited if demonstrated performance is sufficient, or will be sufficient within remaining block events, by EOB. –Mandatory Warmup is required if NFS has flown less than the sum of 11.0 simulator plus aircraft hours during the last 30 days.*
14-30 All Others	1 Mandatory 1 Optional	–Mandatory WU is not an advancing event. –Optional WU is based on performance and is required if overall grade is UNSAT. –WU is prohibited if demonstrated performance is sufficient, or will be sufficient within remaining block events, by EOB.

*Break = (Current Julian data) – (Julian date of last simulator or flight event in stage).

h. Training Delays and Warmups Between Stages. WUs are intended for non-curriculum breaks in training. Each curriculum is designed to allow sufficient time for academics, simulators, and flights. First events in stage following ground training are designed and graded with the delay factored in and normally do not require a WU.

i. Between stages, a mandatory WU is required if 14 to 30 days have elapsed since any curriculum event.

ADVANCED E-2 COURSE FLOW



j. All WU events between stages shall be recorded on an ATF, and will include all required and relevant information to record the conduct and performance of that WU event.

k. Extended Training Delays. If the period between events is greater than 30 days, the squadron CO shall determine an appropriate WU training plan to regain NFS proficiency. Refer to the CNATRAINST 1500.4J for further guidance.

6. Additional Simulators. Extra Training (ET) Events (SXX87): ET events may be awarded by the CO to compensate for either syllabus-related training deficiencies (e.g., MCG deviation) or to correct NFS performance skillset deficiencies. Refer to CNATRAINST 1500.4J for ET event guidelines.

7. Ground Training and Briefing Requirements

a. Mission Preparation, Briefings, and Debriefings

(1) EOB Events. The instructor shall carefully review the student's previous ATFs in planning the EOB event to ensure the profile includes opportunities to reach MIF on all mandatory items and demonstration items attempted in the block.

(2) Preparation. Students shall arrive for each flight or simulator event with:

(a) A thorough knowledge of:

1. The Discuss Items, as listed in Chapters II-VIII.

2. Procedural knowledge of the mandatory and demonstration items for the event's training block.

(b) An event profile tailored to training requirements, weak areas, and continuity.

(c) The latest ATF for the stage.

(d) Discuss items from the daily squadron flight schedule.

(3) Briefing. The instructor shall review the NFS's previous block ATFs before each event. Thoroughly cover the current mission's:

(a) Discuss Items, as listed in Chapters II-VIII.

(b) Specific objectives.

- (c) Techniques and required procedures for accomplishing those objectives.
- (d) Planned profile and contingencies.

(4) Debriefing

(a) After each event, the instructor shall critique the student's performance using cause/effect analysis, particularly with respect to the CTS.

(b) The mission's complexity and student's progress will govern the time required for debrief, not to exceed one hour. For simulator events conducted by Contract Instructors, at no time shall the debrief time be less than MCG stated time. In some cases, an extended CI debrief may be required due to student performance.

(c) Debriefing must be detailed and comprehensive. The ATF shall be completed prior to the NFS's next event IAW CNATRAINST 1500.4J.

b. Emergency Procedures (EP) Briefing and Training. EP training builds the student's confidence in the aircraft. Incorporate EP training into simulator events when practical; however, instructional block objectives take precedence. Grade the student's overall EP knowledge and performance under EPs.

8. Mission Grading Procedures and Evaluation Policies

a. General Grading and Evaluation Policy. MIFs listed are minimum block completion standards per maneuver. Students who consistently perform at the absolute minimum standard through multiple blocks of training may not possess the skills required to complete follow-on training. MIF is designed to allow for minimum performance in a specific area, with the understanding that performance in other areas above the minimum MIF, will offset the weak area.

b. Grading Procedures

(1) Absolute Maneuver Grading. The following scale shall be used to document NFS performance on maneuvers attempted during each event. This is an absolute grading scale. It shall be interpreted and used by instructors the same way for all items on all events. NFS performance as referred to in the scale below should be judged only against the CTS provided for a given item in the MCG.

- (a) Demonstrated (NG/1 Level). Enter "No Grade (NG)":

1. When the instructor demonstrates the maneuver and the student does not subsequently perform it during the event.

2. To indicate accomplishing all SSRs for that block or event. Also specify completed SSRs in the ATF's maneuver item content line and document date of exposure via the SSR button on the ATF menu bar.

(b) Unable (U/2 Level). Performance is unsafe or lacks sufficient knowledge, skill, or ability. Deviations greatly exceed CTS, significantly disrupting performance. Corrections significantly lag deviations or aggravate the deviation.

(c) Fair (F/3 Level). Performance is safe, but with limited proficiency. Deviations exceed CTS tolerances, detracting from performance. Corrections noticeably lag deviations, and may not be appropriate.

(d) Good (G/4 Level). Performance meets or positively exceeds CTS. Deviations outside CTS tolerances are brief, minor, and do not affect safety of flight. Corrections are appropriate and timely.

(e) Excellent (E/5 Level). Surpasses CTS. Performance is correct, efficient, and skillful. Deviations are very minor. Corrections, if required, are initiated by the NFS and are appropriate, smooth, and timely.

(2) Overall Event Grades. Overall event grades represent the student's progression through the syllabus. Every training event shall be marked Pass or Unsatisfactory (UNSAT). Use the following definitions to characterize event grades. See ***Awarding Overall Event Grades*** for specific rules defining UNSAT performance.

(a) Pass

1. Prior to EOB: level of performance is generally adequate to meet or exceed levels of expected performance by EOB necessary to continue training.

2. EOB: NFS performance meets or exceeds performance necessary to continue to the next block, stage, or phase training.

(b) UNSAT. NFS exhibits dangerous tendencies or progress toward meeting EOB standards is insufficient. An overall UNSAT is at the instructor's discretion. It should be noted that an event may be graded UNSAT without any individual maneuvers graded U/2. UNSAT events that do not result in an IPC or CO-PC shall be printed on pink paper; UNSAT Progress Checks and UNSAT events that result in a Progress Check shall also be printed on pink paper. If the NFS receives an UNSAT on any event, to include SXX86 or SXX87, the ATF shall be printed on pink paper. If an overall UNSAT grade is awarded on any event other than normal syllabus flow events, the instructor shall clearly state the justification in the General Comments

section of the ATF. Any UNSAT event, starting with failed academics exams in API, through the final event prior to designations as a Naval Flight Officer, shall cumulatively be used in Progress Check triggers.

(3) Overall Event Grades. Overall event grades represent NFS progression through the curriculum. Every training event shall be marked Pass or Unsatisfactory (UNSAT).

(a) Prior to EOB. Level of performance is generally adequate to meet or exceed levels of expected performance by EOB necessary to continue training.

(b) EOB MIF Performance. NFS performance meets or exceeds performance necessary to continue to the next block, stage, or phase training. If the student has previously met MIF in the block, he or she must still meet MIF in the EOB event if the maneuver is reattempted.

(c) MIF Performance Maintenance. Students shall maintain or exceed MIF performance from one block to the next within stage or between media within stage, except as noted below or when MIF on a subsequent block is below the preceding block MIF.

(4) Maneuver Requirements. For each block:

(a) Mandatory Items. Items with a number and a plus sign (+) are mandatory and the student must meet the required proficiency by EOB. When a maneuver is performed multiple times in a block of training, the last grade assigned for the maneuver will determine if the student meets EOB MIF.

(b) Demonstration Items. Items with the number 1, but without a plus (+), are demonstration items. If one or more is flown within a block, the NFS must meet the preparation and knowledge requirements to safely attempt the item; NFSs may receive a U/2 for a Demonstration item if they are not adequately prepared for, or do not have the requisite knowledge to perform the item.

(5) Complete and Incomplete Events

(a) An event may both complete a previous event and count as an advancing event.

(b) For events flown exclusively to clear an incomplete, grades on maneuvers repeated from the incomplete event do not count toward the student's score, except where the grade assigned for the repeated item is lower than the lowest grade previously assigned on that item from all previous attempts at that event.

(c) Simulator Event Completion. Assess a simulator event complete if the student has received the full training period per the MCG. If required, the simulator event may be conducted for a time period greater than that stated in the MCG. If the actual simulator sortie length is greater than stated H/X by more than 0.3 hours, the instructor shall annotate the reason in the ATF's General Comments section. The simulator event shall not be conducted for a time less than stated in the MCG, unless it is completing a previously incomplete event.

c. Policies for Evaluation Flights and Ground Evaluations

(1) Authorized Evaluators. The CO shall designate check event instructors for each stage.

(2) Check Flight (SXX90)

(a) Check flights are single-event training blocks. Therefore, all expectations regarding progressing out of a block apply, except:

1. NFS should fly a cross section of Demonstration items (NG/1) after all (+) graded items are adequately performed.

2. The NFS should be able to demonstrate required levels of proficiency without instructor assistance. However, instruction is allowed on check events and NFSs may re-attempt maneuvers at the instructor's discretion. If the flight profile was incomplete because too much time was dedicated to re-attempting maneuvers, or too much event time utilized for additional training, the item should be graded "U/2" and the flight should be graded UNSAT/incomplete.

3. The entire event duration should be devoted to assessing NFS skill attainment, ability, and readiness to progress to the next block of training. All required maneuvers must be completed to MIF.

(b) Incomplete Check Flights

1. A check flight shall be graded as incomplete when:

a. Any (+) graded item was not flown, or

b. The instructor was unable to observe sufficient examples of a given maneuver to assess overall NFS performance. If the flight profile is incomplete because too much time was dedicated to re-attempting maneuvers, or excessive additional training was required, overall event grade should be UNSAT/Incomplete.

2. The subsequent completion flight need only include maneuvers required to complete the check event.

3. Exceptions. The check flight is complete and the overall grade is UNSAT if:

a. Any graded item is below expected performance levels needed to succeed in follow-on training, or

b. Any NG/1 item was not adequately prepared for, or required item knowledge was insufficient resulting in a grade of U/2 for the Demonstration item, or

c. The instructor determines inadequate performance was demonstrated on any item, or items, that will not predicate successful follow-on normal course flow training.

(3) Progress Check Procedures

(a) Progress checks conducted in the simulator are holistic reviews of a NFS's proficiency, judgment, air sense, and overall ability to complete the mission. The intent of every PC is to determine whether the NFS has the potential to reach the defined training standards of the current phase of training within the designated TTT, while demonstrating the potential to successfully complete remaining undergraduate and, for Advanced NFSs, FRS-level training. Refer to the CNATRAINST 1500.4J for further guidance and requirements.

(b) IPC. The following defines when to conduct an IPC, and IPC outcomes.

1. IPC Triggers:

a. Two consecutive UNSATs.

b. Three cumulative UNSATs in NATRACOM.

c. An UNSAT check event (SXX90).

d. A Ready Room UNSAT (RRU).

e. At the discretion of the OPSO or CO when there is doubt regarding the student's potential to successfully complete training within one programmed TTT.

2. IPC outcomes:

a. Pass. Returns the student to normal syllabus flow. This will normally return the student to the event that triggered the IPC.

b. Fail. Results in a CO-PC.

(c) CO-PC. The following defines when to conduct a CO-PC and CO-PC outcomes.

1. CO-PC triggers:

- a. Failure of an IPC.
- b. In any case where a student has undergone an IPC in phase and subsequently meets any of the IPC triggers listed above.
- c. Two academic examination failures in a phase.
- d. Four cumulative UNSATs in a phase, starting with API academics.
- e. At the discretion of the CO when there is doubt regarding the student's potential to successfully complete training within one programmed TTT.

2. CO-PC outcomes:

a. Pass. Returns the NFS to normal syllabus flow. This will normally return the NFS to the event that triggered the CO-PC. The CO-PC may be considered an advancing event if the CO prescribed that course of action during the post-UNSAT CO's review.

b. Fail. AN UNSAT CO-PC results in an attrition recommendation to the TRAWING Commander and a TRB.

d. Progress Check Counseling

(1) Prior to an IPC (SXX88). The NFS's Class Advisor (CA), Student Control Officer, or Operations Officer (OPSO) shall counsel the NFS on the IPC process and document counseling on a Supplementary ATF. CO's guidance, ET authorization, and intent to count the PC as an Advancing X shall be included on the Supplementary ATF.

(2) Upon completion of an IPC. The IPC INFO shall counsel the NFS on the IPC results, recommendations, and future courses of action. The IPC INFO should also strive to ensure the NFS is coping with the IPC process appropriately, and notify appropriate squadron leadership immediately if there are any concerns. Post-IPC counseling shall be documented on the IPC (EXX88) ATF.

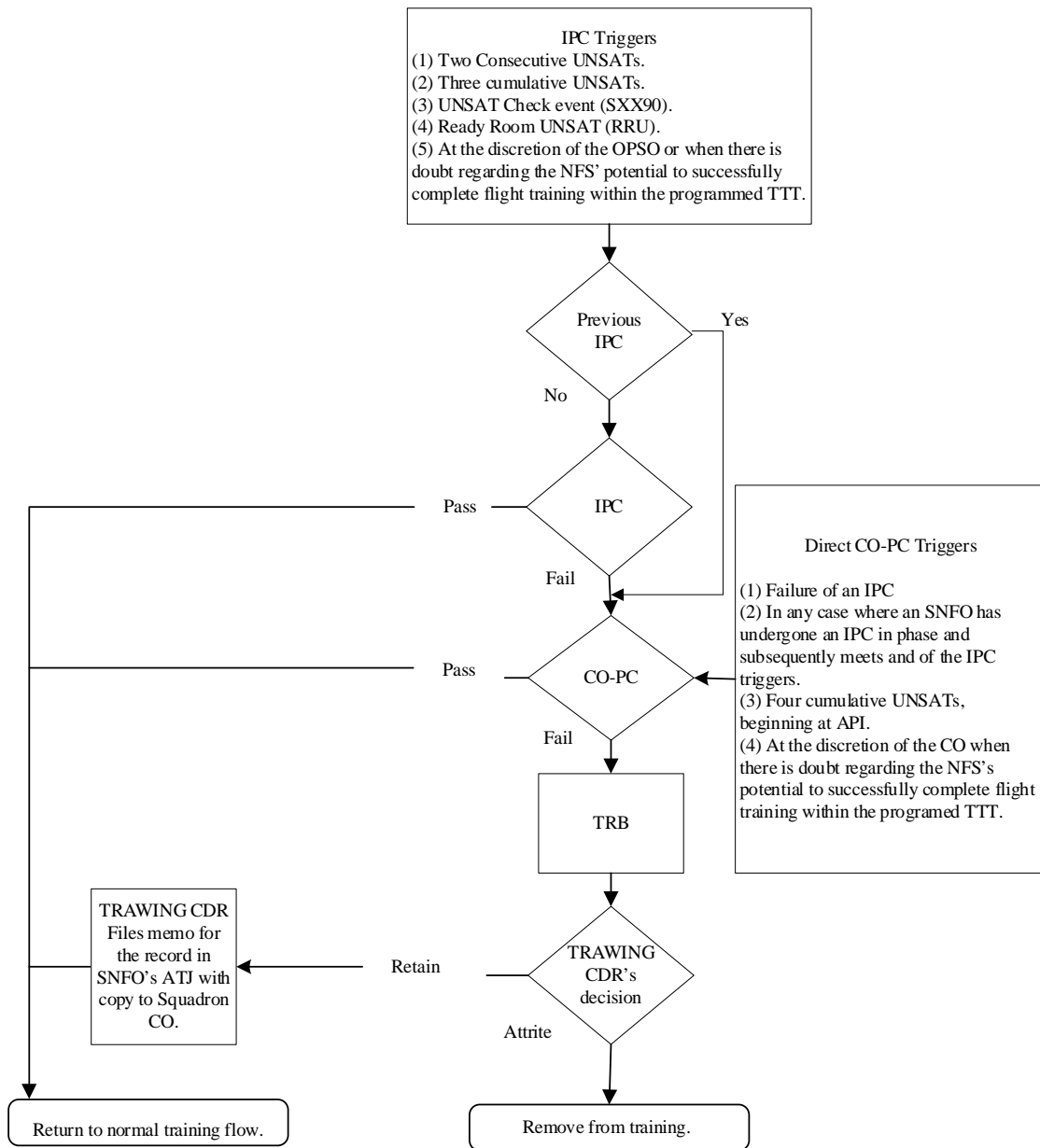
(3) Prior to a Commanding Officer Progress Check (CO-PC) (SXX89). The CO shall counsel the NFS on the CO-PC process. This counseling, including ET authorization and intent to count the CO-PC as an advancing event, shall be documented on the CO-PC (SXX89) ATF. If the CO is not the CO-PC instructor, the CO shall document counseling on a Supplementary ATF.

(4) Upon completion of a CO-PC. The CO-PC Instructor shall counsel the NFS and document on the (SXX89) ATF. Counseling should consist of the CO-PC results, attrition or retention recommendations, and future courses of action. The CO-PC Instructor should also strive to ensure the NFS is coping with the CO-PC process appropriately, and notify appropriate

squadron leadership immediately if there are any concerns. If the CO was not the CO-PC instructor, the CO shall counsel the NFS and document counseling on a Supplementary ATF.

(5) An NFS being processed for an IPC or CO-PC and subsequently submits a Drop on Request (DOR) shall be processed as a DOR.

NFOTS PROGRESS CHECK TRAINING REVIEW PROCESS



9. Special Instructions and Restrictions

a. Simulator Hour/Event Requirements and Restrictions

(1) Maximum Daily Student Activities (Simulator or Academic). Students shall not exceed two graded activities during one duty day.

(2) Minimum Student Turn-Times. The instructor shall ensure at least one hour is allocated between debrief and brief of back-to-back simulator events.

(3) Crew Day. The period from the beginning of the student's first event or official duty of the day until the completion of the last event of the day, including associated debrief and paperwork. Student crew day shall not exceed 12 hours.

(4) Crew Rest. A minimum of 12 hours shall elapse between the conclusion of the student's last scheduled event of the day (including associated debrief) and his or her first scheduled event (including associated brief) of the following day. After six consecutive scheduled days, students shall receive one day off. Official duty, squadron training, and standby scheduling do not qualify as a day off.

b. Source Documents. Students are responsible for reviewing applicable source documents (NATOPS, FTIs, local SOPs, etc.) prior to commencing each stage of training.

c. Maneuver Demonstrations. Item demonstrations will be accomplished as required.

Chapter II

Ground Training

1. Use of Preflight Training Time. Hours are available during the ground stage and other stages associated with academic media to schedule briefings, device familiarization, learning center programs, study sessions, or any other activities that will enhance the student's training and preparation for Advanced E-2 NFOTS. These hours may be used for academic training conducted early in each block; however, all prerequisites must be met.

Blk #	Media	Title	Events	Hrs	Blk Name
ADM01	Class	Administration	2	5.0	Admin

1. Prerequisites

- a. Completion of Q-2D-0180, Intermediate MC2 NFOTS.
- b. E3390 prior to ADM0102

2. Events

ADM0101	Admin	Advanced E-2 NFOTS Check-in	2.5
ADM0102	Admin	Advanced E-2 NFOTS Checkout	2.5

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
E01	Class	Airborne Early Warning	9	17.0	AEW

1. Prerequisite. ADM0101.

2. Events

E0101	CAI	The E-2 Community		2.0	
E0102	CAI	AEW Mission Overview		2.0	
E0103	CAI	Detect-to-Engage Sequence		2.0	
E0104	CAI	AEW Sensors		2.0	
E0105	CAI	Surface Surveillance Coordination		2.0	
E0106	MIL	AEW Procedures Lab		3.0	
E0107	MIL	AEW Exam Review		2.0	
E0108	CAI Test	AEW Exam		1.5	
E0109	Lect	AEW Exam Remediation and Critique		0.5	

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
E02	Class	Air Intercept Control	7	16.0	AIC

1. Prerequisite. E3106 prior to E0201-6.

2. Events

E0201	CAI	Introduction to Offensive Air Support	2.0
E0202	MIL	AIC Comm and Tactics/ Timeline	6.0
E0203	CAI	Air Defense Techniques	2.0
E0204	MIL	Strike Techniques	2.0
E0205	MIL	AIC Exam Review	2.0
E0206	CAI Test	AIC Exam and Critique	1.5
E0207	Lect	AIC Exam Remediation and Critique	0.5

3. Syllabus Notes. None.

4. Discuss Items. None.

Chapter III

NATOPS Training

This chapter does not apply to Advanced E-2 NFOTS phase of training.

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Chapter IV

Contact Training

This chapter does not apply to the Advanced E-2 NFOTS phase of training.

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Chapter V

Instrument Training

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Chapter VI

Navigation Training

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Chapter VII

Formation Training

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Chapter VIII

Tactical Training

1. Seating. Student shall occupy a student MCS station.
2. Matrices. The following matrices are an overview of Advanced E-2 NFOTS simulator training. The purpose of these matrices is to provide the student and instructor the easiest way to track progress and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.
3. E-2 Stage MIF

 Check Flight Event

E-2 STAGE MANEUVER ITEM FILE				
CTS REF	MANEUVER	E3106	E3211	E3390
1	General Knowledge/Procedures	4+	4+	4+
2	Emergency Procedures	4+	4+	4+
3	Situational Awareness	3+	4+	4+
4	System Knowledge	4+	4+	4+
5	Brief/Preparation	4+	4+	4+
6	Radar/IFF Utilization	4+	4+	4+
7	ESM Utilization	4+	4+	4+
8	Data Link Utilization	4+	4+	4+
9	Tactical Radio Procedures	3+	4+	4+
10	ROE/PID	3+	4+	4+
11	Search and Rescue	3+	4+	1
12	Crew Resource Management/TCC	3+	4+	4+

MIF continued on next page.

E-2 STAGE MANEUVER ITEM FILE				
CTS REF	MANEUVER	E3106	E3211	E3390
13	Prioritization	3+	4+	4+
14	Scan	3+	4+	4+
15	Debrief	3+	4+	4+
16	Airborne Early Warning (AEW)	3+	4+	4+
17	Manual Tracking	4+		
18	Near Collision Intercepts	4+		
19	Composite Warfare Commander (CWC) Coordination	3+	3+	3+
20	Air Intercept Control (AIC) Communications		4+	4+
21	AIC Timeline Awareness		4+	4+
22	AIC Changes to the Picture		4+	4+
23	Strike		3+	
24	OAS (SO)		3+	
25	OAS (AD)		3+	

Blk #	Media	Title	Events	Hrs	Blk Name
E11	Class/ MCS	Airborne Early Warning Flight Support	3	14.0	AEWFS

1. Prerequisites

- a. E0109 prior to E1101.
- b. E1101 prior to E1102-E1103 (any order).

2. Events

E1101	MIL	AEW Flight Preparation		4.0	
E1102	ER/ MCS	AEW Event Rehearsal		3.0	
E1103	SS	AEW Self-Study		7.0	

3. Syllabus Notes. E1102 will be accomplished in the MCS with an INFO assigned.
4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
E12	Class/ MCS	Air Intercept Control Flight Support	7	28.0	AICFS

1. Prerequisites

- a. E0207 prior to E1201.
- b. E1201 prior to E1202-E1203 (any order).
- c. E3205 prior to E1204.
- d. E1204 prior to E1205.
- e. E1205 prior to E1206-E1207 (any order).

2. Events

E1201	MIL	AIC Flight Preparation		3.0
E1202	ER/ MCS	AIC Event Rehearsal Intro		3.0
E1203	SS	AIC Event Rehearsal Study		6.0
E1204	Lect	Introduction to TCC		4.0
E1205	MIL	TCC Flight Preparation		3.0
E1206	ER/ MCS	TCC Event Rehearsal Intro		3.0
E1207	SS	TCC Event Rehearsal Intro		6.0

3. Syllabus Notes

- a. E1202 will be accomplished in the MCS with an INFO assigned.
- b. E1206 may be executed as a multi-crew (two-device) or single SNFO (single device) configuration, and shall be accomplished with one CI per station.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
E31	MCS	Airborne Early Warning	6	9.0	1.5

1. Prerequisites. E1102 and E1103.

2. Syllabus Notes

a. Students will begin the event airborne.

b. In addition to the scheduled INFO, a CI is required to operate the MCS for each event in this block. The CI is not required to attend the brief or debrief.

3. Special Syllabus Requirements. None.

4. Discuss Items

E3101 - Manual Tracking 1

AEW, manual tracking (course/speed), and goals of manual tracking. ALSA terms: bead window, checkprint, midnight, sunrise, bird(s), pigeons, alpha check, as fraggd, set, reset.

E3102 - Manual Tracking 2

Link-16 and detect-to-engage sequence. ALSA brevity terms: bandit, bogey, spades, paints, squawking, friendly, hostile, neutral, angels, cherubs.

E3103 - Near-Collision Intercepts 1

NCI procedures and terms, aircraft check-in procedures and BRAA.

E3104 - Near-Collision Intercepts 2

Carrier Strike Group and Carrier Air Wing Composition. ALSA brevity terms: beam, drag, flank, hot, CAP(ing), group, heavy, gorilla, judy, merge.

E3105 - Composite Man Track/Near-Collision Intercepts 1

CWC coordination. ALSA brevity terms: clean, eyeball, standby, tally, visual.

E3106 - Composite Man Track/Near-Collision Intercepts 2

ALSA brevity terms: drop, dirty, vanished, faded.

5. Block MIF

CTS REF	MANEUVER	E3106
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Situational Awareness	3+
4	System Knowledge	4+
5	Brief/Preparation	4+
6	Radar/IFF Utilization	4+
7	ESM Utilization	4+
8	Data Link Utilization	4+
9	Tactical Radio	3+
10	ROE/PID	3+
11	Search and Rescue	3+
12	Crew Resource Management/TCC	3+
13	Prioritization	3+
14	Scan	3+
15	Debrief	3+
16	Airborne Early Warning (AEW)	3+
17	Manual Tracking	4+
18	Near Collision Intercepts	4+
19	Composite Warfare Commander (CWC) Coordination	3+

Blk #	Media	Title	Events	Hrs	H/X
E32	MCS	Air Intercept Control	11	16.5	1.5

1. Prerequisites

- a. E1202 and E1203 prior to E3201.
- b. E1204-7 prior to E3206.

2. Syllabus Notes

- a. Students will begin the event airborne.
- b. In addition to the scheduled INFO, a CI is required to operate the MCS for each event in this block. The CI is not required to attend the brief or debrief.
- c. E3207-9 may be executed in two-device (two students) or single-device (single student) configurations. If these events are executed with two paired devices, two CISs and three INFOs are required. All INFOs shall attend the brief and debrief. CISs will not attend the brief or debrief.

3. Special Syllabus Requirements. None.

4. Discuss Items

E3201 - 2v2 ULT AIC 1

Five components of AIC core information. ALSA brevity terms: group, azimuth, champagne, ladder, range, vic, wall, echelon, weighted, deep, wide, alpha check, as fraggd.

E3202 - 2v2 ULT AIC 2

Types of control (broadcast/tactical). ALSA brevity terms: closing, opening, crossing, passing, maneuver, arm, pop-up, commit, fox, cheapshot.

E3203 - Air Defense 1

Timeline critical points, groups, arms, group maneuvers, ROE, leading edge communications, and Warning/Weapon status. ALSA brevity terms: flow, meld, separation, single, snap, snaplock, status, strength, target, threat.

E3204 - Air Defense 2

FEZ, MEZ, JEZ. Changes to the picture, additional group, pop-up group, and threat group. ALSA brevity terms: vampire, bittersweet, furball, remington, winchester, skosh, fast, very fast.

E3205 - Air Defense 3

Carrier strike group air defense, DCA, and CAP station management. ALSA brevity terms: lean, leaning on, playtime, reference, cease fire, hold fire.

E3206 - Strike

OCA, defense in depth strike, force concentration strike, HVAAP. ALSA brevity terms: singer, trespass, green, magnum, music, flow, buster, miller time, rolex, slide, scam.

E3207 - Offensive Air Support 1

OAS principles and concepts, CAS station management, tanker management, FLOT, FSCL, HPTL.

E3208 - Offensive Air Support 2

XINT, FAC, ASOC, CAOC, blue kill box, purple kill box.

E3209 - Dual Lane Defensive Counter Air (DCA)

Dual lane DCA, CAP asset management, tripwires, lane coverage, verbal and non-verbal communication. ALSA brevity terms: grand slam, husky, pitbull, trashed.

E3210 - Air Defense 4

Fighter targeting priorities (section), air defense priorities, times AIC can talk in the merge.

E3211 - Air Defense 5

Any previous discuss item from E32 block.

5. Block MIF

CTS REF	MANEUVER	E3211
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Situational Awareness	4+
4	System Knowledge	4+
5	Brief/Preparation	4+
6	Radar/IFF Utilization	4+
7	ESM Utilization	4+
8	Data Link Utilization	4+
9	Tactical Radio Procedures	4+
10	ROE/PID	4+
11	Search and Rescue	4+
12	Crew Resource Management/TCC	4+
13	Prioritization	4+
14	Scan	4+
15	Debrief	4+
16	Airborne Early Warning (AEW)	4+
19	Composite Warfare Commander (CWC) Coordination	3+
20	Air Intercept Control (AIC) Communications	4+
21	AIC Timeline Awareness	4+
22	AIC Changes to the Picture	4+
23	Strike	3+
24	OAS (SO)	3+
25	OAS (AD)	3+

Blk #	Media	Title	Events	Hrs	H/X
E33	MCS	Air Intercept Control Check Flight	1	1.5	1.5

1. Prerequisite. E3211.
2. Syllabus Notes
 - a. Students will begin the event airborne.
 - b. In addition to the scheduled INFO, a CI is required to operate the MCS for each event in this block. The CI is not required to attend the brief or debrief.
3. Special Syllabus Requirements. None.
4. Discuss Items. Any previously discussed items from the E32 block.

5. Block MIF

CTS REF	MANEUVER	E3390
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Situational Awareness	4+
4	System Knowledge	4+
5	Brief/Preparation	4+
6	Radar/IFF Utilization	4+
7	ESM Utilization	4+
8	Data Link Utilization	4+
9	Tactical Radio Procedures	4+
10	ROE/PID	4+
11	Search and Rescue	1
12	Crew Resource Management/TCC	4+
13	Prioritization	4+
14	Scan	4+
15	Debrief	4+
16	Airborne Early Warning (AEW)	4+
19	Composite Warfare Commander (CWC) Coordination	3+
20	Air Intercept Control (AIC) Communications	4+
21	AIC Timeline Awareness	4+
22	AIC Changes to the Picture	4+

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Chapter IX

Course Training Standards

1. Purpose. These standards outline the tasks and proficiency required of SNFOs during the Advanced E-2 NFOTS phase.

2. Student Duties and Responsibilities

- a. Plan the mission.
- b. Ensure the MCS is inspected and configured for the assigned mission.
- c. Operate the MCS to accomplish the mission using sound judgment and mission ownership.

3. General Standards

- a. “Standard” equates to *good* (G/4).
- b. Momentary deviations outside CTS that do not compromise flight safety are acceptable if subsequent corrections are timely.
- c. Procedural knowledge and application must comply with applicable directives and allow efficient mission accomplishment.

4. Execution. The MIF regulates student progression to meet required standards prior to phase completion. Instructors shall evaluate student performance against these standards.

5. Job Tasks. Specific performance and standards required are described as follows:

BEHAVIOR STATEMENT	STANDARDS
Graded Item	
● A brief description of the behavior, required action, and/or conditions.	● The specific standards for the action. May be read as “The SNFO...”

6. Graded Items. The MIF for specific graded items varies for each stage. Several items are graded on all complete syllabus events. The standards for these universally graded items are listed first followed by the Course Training Standards unique to each stage.

7. Course Training Standards

BEHAVIOR STATEMENT	STANDARDS
1. General Knowledge/Procedures	
<ul style="list-style-type: none"> ● Maintain working knowledge of all appropriate flight training instructions and directives. 	<ul style="list-style-type: none"> ● Recites, discusses, and/or performs all applicable items essential to the operation of the aircraft and completion of the mission.
2. Emergency Procedures	
<ul style="list-style-type: none"> ● Maintain in-depth knowledge of all MCS Student Guide emergency procedures. ● Utilize the checklist IAW MCS Student Guide and FTI guidelines. 	<ul style="list-style-type: none"> ● Recognizes the status of an immediate action item within one minute. ● Performs/recites critical action steps from memory with 100 percent accuracy. ● Correctly communicates with the crew to accomplish the procedure(s). ● Uses correct checklist to complete procedures when conditions permit. ● Proactively responds to compound emergencies and engages in discussion with crewmembers to achieve a resolution. ● Initiates procedures in a timely manner.
3. Situational Awareness	
<ul style="list-style-type: none"> ● Comply with the FTI and MCS Operating Manual while maintaining SA IAW safety-of-flight and mission objectives. 	<ul style="list-style-type: none"> ● Understands instructions, demonstrations, and explanations. ● Foresees and avoids possible difficulties by making recommendations that enhance the situation and/or overall mission effectiveness. ● Remains alert and spatially oriented during all phases of the event.

BEHAVIOR STATEMENT	STANDARDS
4. System Knowledge	
<ul style="list-style-type: none"> ● Comply with the FTI and MCS Student Guide while maintaining a working knowledge of directives. ● Performs equipment operations with the aid of checklists and mission tasking brief. ● Monitors for system malfunctions and troubleshoots when needed. 	<ul style="list-style-type: none"> ● Describes the correct nomenclature, purpose, characteristics, functions, and limitations of MCS systems without error. ● Properly operates all functions of the GPS, FMS, flight instruments, and computer display. ● Monitors the status of all equipment and acknowledges degradations within 5 minutes of the malfunction. ● Properly troubleshoots equipment malfunctions.
5. Brief/Preparation	
<ul style="list-style-type: none"> ● Performs mission planning. ● Performs a proper mission brief. 	<ul style="list-style-type: none"> ● Is thoroughly prepared for the brief and as applicable, briefs the flight to include specific mission objectives, flight conduct, and contingency planning. ● Conducts an accurate mission and safety brief given a standard mission briefing guide. ● Interacts with instructors and other crewmembers in a professional manner.

BEHAVIOR STATEMENT	STANDARDS
6. Radar/IFF Utilization	
<ul style="list-style-type: none"> ● Performs radar and IFF operations with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly describes theory of operation and function of the radar and IFF Interrogator and Transponder. ● Properly operates all functions of the radar equipment. ● Utilizes the proper radar horizon to allow for an effective radar plot. ● Properly operates the radar equipment to effectively plot and identify surface and air contacts. ● Monitors the status of the radar and acknowledges sensor degradations within 5 minutes of the malfunction while using the radar. ● Properly operates all functions of the IFF Interrogator and Transponder. ● Properly operates the IFF Interrogator to effectively plot and identify contacts. ● Monitors the status of the IFF Interrogator and Transponder and acknowledges sensor degradations within 5 minutes of the malfunction. ● Properly troubleshoots all radar malfunctions.
7. ESM Utilization	
<ul style="list-style-type: none"> ● Performs ESM operations with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly describes theory of operation and function of the ESM equipment. ● Properly operates all functions of the ESM equipment. ● Properly operates the ESM equipment to evaluate the emitter type and determine the contact/point of origin. ● Correlates emitter with the correct platform. ● Monitors the status of the ESM equipment and acknowledges sensor degradations within 5 minutes of the malfunction. ● Properly troubleshoots all ESM equipment malfunctions.

BEHAVIOR STATEMENT	STANDARDS
8. Data Link Utilization	
<ul style="list-style-type: none"> ● Performs data link operations with the aid of checklists, appropriate messages, and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly describes theory of operation and function of the data link equipment. ● Properly operates all functions of the data link equipment. ● Describes all nomenclature as it pertains to data link employment. ● Properly operates the data link equipment to transmit and/or receive sensor contacts. ● Inserts sensor contacts into the data link within five minutes of request. ● Monitors status of the data link and acknowledges sensor degradations within 5 minutes of the malfunction. ● Properly troubleshoots all data link malfunctions.
9. Tactical Radio Procedures	
<ul style="list-style-type: none"> ● Communicates/performs with standard terminology IAW the unclassified tactical aid, checklists, and FTL. ● Performs tactical radio procedures at the MCS crew station and directs via the use of V/UHF/HF/SATCOM radios and ICS. 	<ul style="list-style-type: none"> ● Responds correctly to 90 percent or more of tactical incoming calls. ● Acknowledges all communications. ● Communicates clearly and concisely with appropriate tactical unit using standard tactical radio procedures. ● Provides traffic calls to controlled aircraft to any friendly/neutral aircraft expected to cross within 10 NM and 10,000'. ● Make timely transmissions without blocking other radio calls. ● Communicates using standard terminology and brevity. ● Communicates precise formatted radio transmissions when applicable. ● Communicates properly during secure radio transmissions. ● Correctly utilizes code words and brevity terms.

BEHAVIOR STATEMENT	STANDARDS
10. ROE/PID	
<ul style="list-style-type: none"> ● Properly understands and implements theater Rules of Engagement and Positive Identity criteria. 	<ul style="list-style-type: none"> ● Conducts proper analysis of a threat per PID criteria. ● Directs the proper threat tracking strategy. ● Directs the proper threat attack strategy per the ROE. ● Executes proper ROE procedures.
11. Search and Rescue	
<ul style="list-style-type: none"> ● Directs/performs Search and Rescue procedures with the aid of checklists and sensor utilization. 	<ul style="list-style-type: none"> ● Determines the best-known position of the missing entity utilizing all available information to include parachute drift if applicable. ● Directs search assets to the scene. ● Optimizes search sensors of all participating units. ● Executes appropriate Search and Rescue reports when required. ● Coordinates with the appropriate agency to aid in the search and rescue effort.
12. Crew Resource Management/TCC	
<ul style="list-style-type: none"> ● Directs aircrew and other resources to minimize workload in order to enhance SA. 	<ul style="list-style-type: none"> ● Directs aircrew using standard communications. ● Communicates with brevity to crewmembers. ● Coordinates with crewmembers to conduct mission duties. ● Delegates aircrew tasks as appropriate. ● Makes timely recommendations to maintain aircraft flight parameters through all regimes of flight. ● Uses SA building communications with crewmembers. ● Displays assertive behavior with crewmembers when necessary. ● Demonstrates the use of all CRM/TCC skills to effectively use all resources, information, and knowledge to guide the crew to the successful achievement of all tasks in flight.

BEHAVIOR STATEMENT	STANDARDS
13. Prioritization	
<ul style="list-style-type: none"> ● Manages task loading in the proper order of precedence per FTI recommended minimum requirements. 	<ul style="list-style-type: none"> ● Effectively prioritizes task loading in descending order of importance.
14. Scan	
<ul style="list-style-type: none"> ● Exhibits proper recognition of system and flight instrumentation. ● Exhibits proper tactical scan to enhance situational awareness. 	<ul style="list-style-type: none"> ● Recognizes any deviations from desired heading, airspeed, or altitude and makes recommendations for appropriate and timely corrections. ● Utilizes the TACPLOT display to recognize any changes to the tactical situation.
15. Debrief	
<ul style="list-style-type: none"> ● Performs a proper debrief. 	<ul style="list-style-type: none"> ● If appropriate, reports unusual deviations, potentially hazardous conditions, or unusual operations to controlling authority. ● Conducts an accurate mission debrief given a standard mission debriefing guide. ● Reports status of mission objectives. ● Reconstructs mission for lessons- learned purposes. ● Is receptive to constructive feedback, taking responsibility for student errors, and discusses proactive measures to improve performance. ● Recalls specifics of the mission and is able to accurately assess aircrew performance.
16. Airborne Early Warning (AEW)	
<ul style="list-style-type: none"> ● Provides Airborne Early Warning (AEW) in support of the appropriate warfare commanders. 	<ul style="list-style-type: none"> ● Utilizes sensors to detect and track all contacts within the surveillance area. ● Ensures all contacts within the surveillance area have an associated track and that track is evaluated and reported in the Link. ● Correctly analyzes the tactical situation. ● Coordinates with the appropriate warfare commander to cease reporting or drop track any tracks that are no longer being detected. ● Chooses ownship stationing to maximize detection in the appropriate area of interest.

BEHAVIOR STATEMENT	STANDARDS
	<ul style="list-style-type: none"> ● Maintains positional awareness of friendly assets.
17. Manual Tracking	
<ul style="list-style-type: none"> ● Performs manual tracking procedures. 	<ul style="list-style-type: none"> ● Correctly analyzes the course and speed of radar contacts within 10 degrees and 25 knots of actual course and speed on 80% of runs IAW the manual tracking procedure. ● Generates an operator track, inputs the calculated course and speed, evaluates, and reports the track into the Link. ● Utilizes the track reporting voice communications procedure to report track to the Air Warfare Commander within 5 minutes of initial detection. ● Monitors and updates manual tracks to ensure tracks remain on the radar video.
18. Near Collision Intercepts	
<ul style="list-style-type: none"> ● Directs/performs near collision intercept procedures. 	<ul style="list-style-type: none"> ● Directs fighter to a proper intercept course IAW the NCI procedure, to an intercept CPA of 1 NM on 80% of runs. ● Receives updated fuel state for each fighter after each intercept. ● 80 percent accurate BRAA calls. ● Provides separation calls to fighters during reset.

BEHAVIOR STATEMENT	STANDARDS
19. Composite Warfare Commander (CWC) Coordination	
<ul style="list-style-type: none"> ● Effectively coordinates with the appropriate warfare commander regarding tactical decisions. 	<ul style="list-style-type: none"> ● Reports all air contacts to the Air Defense Commander IAW the track reporting voice communications. ● Communicates with the appropriate warfare commander regarding all tactical decisions with recommended actions, when appropriate. ● Makes recommendation regarding airborne decisions/posture to the appropriate warfare commander. ● Understands and executes the mission according to Daily Intentions Messages, OPTASK messages, and mission planning documents. ● Coordinates with Air Defense Commander regarding any changes to CAP Station manning (set, commit, reset, etc.). ● Informs Air Defense Commander the status/results of all air to air intercepts. ● Coordinates with Air Defense Commander for relief, if necessary, prior to clearing DCA fighters to return to base. ● Utilizes CICO to coordinate with CWC when necessary.

BEHAVIOR STATEMENT	STANDARDS
20. Air Intercept Control (AIC) Communications	
<ul style="list-style-type: none"> ● Directs/performs air-to-air intercepts utilizing standard AIC communications procedures. ● Tactically/safely directs fighter aircraft to a beyond-visual-range weapons employment opportunity. 	<ul style="list-style-type: none"> ● 80% accurate AIC calls according to include: <ul style="list-style-type: none"> - Using correct call sign. - Making a broadcast call at least once every minute overwater or 30 seconds overland. - Correct labels on picture calls post-commit. - Using correct group names though the intercept. - Using accurate declaration. - Responding to all fighter declare/correlation calls, using the anchor point provided by the fighter. - Immediately provides spike range call responses. - Providing descriptive updates for groups. - Responding to fighter requests for information in the correct format. - Receiving updated fuel/weapons states for each controlled asset after every intercept.
21. AIC Timeline Awareness	
<ul style="list-style-type: none"> ● Directs fighters to intercept air contacts utilizing the air-to-air timeline. 	<ul style="list-style-type: none"> ● Commits fighters prior to NLT commit range. ● Transitions to the correct control type required based on the air-to-air timeline. ● Completes the tactical picture call prior to tactical range. ● Completes 80% of tactical range calls. ● Directively targets fighters, when required. ● Makes a threat call prior to any untargeted group entering threat range, with 80% accuracy. ● Communicates in the merge only when required.

BEHAVIOR STATEMENT	STANDARDS
22. AIC changes to the Picture	
<ul style="list-style-type: none"> ● Effectively communicates to the fighters any changes to the tactical picture. 	<ul style="list-style-type: none"> ● Recognizes group maneuvers within 30 seconds of maneuver. ● Provides maneuver call or descriptive update, as appropriate, for all group maneuvers. ● Provides appropriate new picture calls, when appropriate. ● Utilizes correct group/arm/contact names, following a maneuver. ● Correctly communicates the presence of additional, pop-up, or threat groups.
23. Strike	
<ul style="list-style-type: none"> ● Directs strike procedures. 	<ul style="list-style-type: none"> ● Directs friendly assets to optimal strike positions. ● Monitors go and abort criteria and makes appropriate <i>recommendations</i> to the strike lead. ● Determines tactically when an intercept is necessary or should be avoided with regards to established timeline.
24. Offensive Air Support (SO)	
<ul style="list-style-type: none"> ● Effectively manages aircraft to service JTARs/TSTs and execute OAS procedures. 	<ul style="list-style-type: none"> ● Conducts a turnover with off-going E-2. ● Directs friendly assets to optimal positioning to accomplish specific tasking. ● Once a new JTAR/TST has been received from AD, tasks an asset to service it within 4 minutes. ● Passes all expected Time on Target (TOT) to AD within 4 minutes of receipt. ● Collects In-Flight Report (IFR) from striker. ● Passes all IFRs to AD within 4 minutes of receipt. ● Maintains awareness of what all aircraft under their control is doing.

BEHAVIOR STATEMENT	STANDARDS
25. Offensive Air Support (AD)	
<ul style="list-style-type: none">● Effectively receives and passes tasking from higher command authorities.	<ul style="list-style-type: none">● Conducts check in on ADCCN & TARN.● Correctly copies down JTAR or TST tasking with less than 2 read-backs required per task.● Passes JTAR/TST form to SO within 4 minutes of receipt.● Passes all TOTs to the appropriate agency within 4 minutes of receipt from SO.● Passes all IFR to the appropriate agency within 4 minutes of receipt from SO.

Chapter X

Master Materials List

1. Individually Issued Materials

<u>NOMENCLATURE</u>	<u>IDENTIFICATION</u>	<u>QTY PER STUDENT</u>
a. Advanced E-2 NFOTS Master Curriculum Guide	CNATRAINST 1542.181	1
b. E-2 Flight Training Instructions	CNATRA P-Pubs (various)	1

2. Aircraft and/or Major Training Devices

a. Multi-Crew Simulator (2B51) quantity controlled by Naval Air Warfare Center Training Systems Division (NAVAIRWARCENTRASYS DIV), Training Material Management Division, Inventory Control Branch.

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