

# NAVAL AIR TRAINING COMMAND



NAS CORPUS CHRISTI, TEXAS  
CIN Q-2A-0090

CNATRAINST 1542.150  
08 Aug 2002

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## CHIEF OF NAVAL AIR TRAINING



## T-45C JET TRANSITION STRIKE FLIGHT INSTRUCTOR TRAINING CURRICULUM

2002





DEPARTMENT OF THE NAVY

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

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CNATRA INSTRUCTION 1542.150

Subj: T-45C JET TRANSITION STRIKE FLIGHT INSTRUCTOR TRAINING  
CURRICULUM

1. Purpose. To issue the curriculum for training non-carrier qualified designated Naval Aviators as T-45C Strike Flight Instructors. Basic and Advanced instructor under training (IUT) phases follow successful completion of the jet transition phase of the training curriculum.
2. Action. This instruction is effective upon receipt. No changes will be made without written authorization of the Chief of Naval Air Training (CNATRA).
4. Forms. The CNATRA-GEN forms may be obtained by submitting a DD Form 1348 to Commanding Officer, Naval Air Station (NAS) Pensacola Supply Department (Code 19560), Pensacola, Florida 32508, or through local SERVMARTs. Instructor Training Forms (ITFs) for this curriculum are computer generated by the T45TS Training Integration System (TIS) and will not be stocked in hard copy.

*William H. Carey*  
WILLIAM H. CAREY  
Chief of Staff

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SUMMARY OF CHANGES

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1	3/31/2008	Incorporated	3, iii, 13
2	11/10/2010	Incorporated	3, iii, 77, A-5, A-6

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COURSE DATA

1. Course Title. T-45C Jet Transition Strike Flight Instructor Training Curriculum.
2. Catalog Identification Number. Q-2A-0090
3. Training Site/Course Data Processing (CDP) Code. Naval Air Station (NAS), Meridian, Mississippi/Training Squadron (TRARON) SEVEN (VT-07) CDP 738C.
4. Course Status. Implement upon receipt.
5. Course Mission. T-45C Jet Transition Strike Flight Instructor Training Curriculum is designed to provide non-carrier qualified Naval Aviators with jet aircraft training and to develop airmanship skills prerequisite for training Student Naval Aviators.
6. Prerequisite Training. Successful completion of Undergraduate Pilot Training and Flight Instructor Training Course (FITC), Q-2B-0010.
7. Personnel Eligibility. Designated Naval Aviators assigned by the Chief of Naval Personnel as recommended by the Chief of Naval Air Training.
8. Physical Requirements. As specified in Chapter 15 of the Manual of the Medical Department.
9. Security Clearance Required. None.
10. NOBC/NEC Earned. None.
11. Obligated Service. Refer to MILPERSMAN, Article 6610360.
12. Follow-on Training. None.
13. Course Length (Optimum)

Training days:	110	Training weeks:	21.99
Calendar days:	170	Calendar weeks:	24.29
14. Class Capacity. Variable.
15. Instructor Requirements. As established by Chief of Naval Operations (CNO) planning factors.

16. Course Curriculum Model Manager. Commander, Training Air Wing TWO (TRAWING TWO): All stages.

17. Quota Management Authority. Chief of Naval Air Training.

18. Quota Control. Chief of Naval Operations.

19. Primary Instructional Methods. Building block approach to developing and reinforcing prerequisite airmanship skills through a steady increase in mission task loading. Central to the approach is an optimum mix of classroom (MIL, CAI, etc.), simulator and flight instruction. Classroom instruction combines lecture and question/answer while simulator and flight instruction rely more heavily on a mentor relationship between instructor and student.

20. Preceding Curriculum Data. None.

21. Student Performance Measurement. As published in CNATRAINST 1500.4F.

22. Application of Standards to the Measurement of Student Performance. Procedural knowledge and application must be in accordance with applicable directives and manuals. Final judgment regarding the satisfactory performance of any item or maneuver rests with the instructor pilot who is capable of assessing the environmental and systems factors affecting the condition under which the performance is measured.

23. Structure. The T-45C Jet Transition Strike Flight Instructor Training Curriculum encompasses the following:

a. Jet Transition. Aviation Student Indoctrination, Engineering, Aerodynamics, Instrument Navigation, Course Rules, Aircrew Coordination Training, Ejection Seat, Cockpit Orientation, Emergency Procedures, Basic Instruments, Radio Instruments, Familiarization, Out-of-Control Flight, Airways Navigation, Night Familiarization, NATOPS, Instrument Refresher and Field Carrier Landing Practice.

b. Basic Instructor Qualifications. Basic Instruments, Radio Instruments, Familiarization, Airways Navigation, and Night Familiarization.

c. Advanced Instructor Qualifications. Aviation Student Indoctrination, Formation, Night Familiarization Chase, Night Formation, Operational Navigation, Tactical Formation, Weapons, Out-of-Control Flight, and Air Combat Maneuvering.

GLOSSARY

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

- a. ACP - Armament Control Panel
- b. ADC - Airborne Data Computer
- c. ADI - Attitude Director Indicator
- d. AGL - Above Ground Level
- e. AOA - Angle of Attack
- f. ASR - Airport Surveillance Radar
- g. ATC - Air Traffic Control
- h. BIT - Built-in Test
- i. BVR - Beyond Visual Range
- j. CAI - Computer Assisted Instruction
- k. CARQUAL - Carrier Qualification
- l. CCIP - Continuously Computed Impact Point
- m. CDI - Course Deviation Indicator
- n. CEP - Circular Error Probability
- o. CNI - Communications, Navigation, Interrogation
- p. CONTR AUG - Control Augmentation
- q. CV - Carrier
- r. CWS - Centralized Warning System
- s. DACM - Defensive Air Combat Maneuver
- t. DF - Direction Finder
- u. DME - Distance Measuring Equipment
- v. DR - Dead Reckoning
- w. ECA - Engine Control Amplifier

- x. ECS - Environmental Control System
- y. EDP - Engine Driven Pump
- z. FC - Front Cockpit - Fly in front cockpit with a qualified flight instructor on board providing instruction, assistance, or supervision.
- aa. FCLP - Field Carrier Landing Practice
- bb. FLOLS - Fresnel Lens Optical Landing System
- cc. FP - Flight Procedures
- dd. FTI - Flight Training Instruction
- ee. GCA - Ground Controlled Approach
- ff. GINA - GPS/Inertial Navigation Assembly
- gg. GLOC - "G" induced Loss of Consciousness
- hh. GPS - Global Positioning System
- ii. GTS - Gas Turbine Starter
- jj. H - Hooded
- kk. HSI - Horizontal Situation Indicator
- ll. HUD - Heads-up Display
- mm. HYD - Hydraulics
- nn. IFF - Identification Friend or Foe
- oo. IFR - Instrument Flight Rules
- pp. IFT - Instrument Flight Trainer (2F137 - instrument)
- qq. ILS - Instrument Landing System
- rr. IMC - Instrument Meteorological Conditions
- ss. IP - Instructor Pilot
- tt. IROK - Ejection Considerations--Inflate, Release, Options, Koch Fittings

uu.	ITO	-	Instrument Takeoff
vv.	LAB	-	Laboratory/Practical Problem
ww.	LECT	-	Lecture
xx.	LOC	-	Localizer
yy.	LP	-	Low Pressure
zz.	MIL	-	Mediated Interactive Lecture
aaa.	MFD	-	Multi-Function Display
bbb.	NACES	-	Navy Aircrew Common Ejection Seat
ccc.	NATOPS	-	Naval Air Training and Operating Procedures Standardization
ddd.	NAVAIDS	-	Navigational Aids
eee.	NIFM	-	NATOPS Instrument Flight Manual
fff.	NORDO	-	No radio
ggg.	NWS	-	Nose Wheel Steering
hhh.	OBOGS	-	On-board Oxygen Generating System
iii.	OFT	-	Operational Flight Trainer (2F138 - visual)
jjj.	OLS	-	Optical Landing System
kkk.	OPAREA	-	Operations Area
lll.	OPLAN	-	Operations Plan
mmm.	OPS	-	Operations
nnn.	PA	-	Precautionary Approach
ooo.	PAR	-	Precision Approach Radar
ppp.	PENCIL	-	Non-CAI Administered Examination
qqq.	P/P	-	Partial Panel
rrr.	RAT	-	RAM Air Turbine

sss.	RC	-	Rear Cockpit - Fly in rear cockpit with a qualified flight instructor on board providing instruction, assistance, or supervision.
ttt.	RECCE	-	Reconnaissance
uuu.	ROE	-	Rules of Engagement
vvv.	RTB	-	Return to Base
www.	SAR	-	Search and Rescue
xxx.	S/B	-	Speed Brakes
yyy.	SID	-	Standard Instrument Departure
zzz.	SIF	-	Selected Identification Feature
aaaa.	Simo	-	Simultaneous
bbbb.	SNA	-	Student Naval Aviator
cccc.	Solo	-	Fly without a qualified flight instructor.
dddd.	SRT	-	Standard Rate Turn
eeee.	TACAN	-	Tactical Air Navigation
ffff.	UHF	-	Ultra High Frequency
gggg.	VASI	-	Visual Approach Slope Indicator
hhhh.	VFR	-	Visual Flight Rules
iiii.	VFQ	-	Visual Forward-quarter
jjjj.	VHF	-	Very High Frequency
kkkk.	VMC	-	Visual Meteorological Conditions
llll.	VOR	-	VHF Omnidirectional Range
mmmm.	WKBK	-	Workbook
nnnn.	Wx	-	Weather
oooo.	X	-	Check flight, simulator check event, or examination lesson.



Curriculum Guidelines

1. Sequencing. The T-45C Jet Transition Strike Flight Instructor Training Curriculum is comprised of 15 flight stages. Training events are sequenced in seven distinct modules, which integrate academic instruction, flight support lectures, simulator and aircraft flight instruction. The general sequencing guidelines follow:

- MOD 00:                   • ASI lessons may be sequenced any order.
- MOD 01:                   • Academic lessons in any order.  
                             • SEAT-01 prior to CO-02S.
- MOD 02:                   • ACT-01 completed prior to CO-02S.  
                             • BI-01S after BIFP-07X.  
                             • CR-02 and CR-03X prior to FAMFP-01.  
                             • EP-03S after FAM-03 but prior to FAM-12X.  
                             • BI-10X prior to FAM-03.  
                             • NATOPS Examinations, OCF-01S, OCF-02, and  
                              EP-03S prior to FAM-12X.  
                             • IRFP-01 through IRFP-03X and IR-01X prior  
                              to FAM-12X.
- MOD 03:                   • Can be flown concurrently with Module 04.  
                             • EP-04S prior to FCLP-19X.  
                             • CQ-01X requires TRAWING commander/Commanding  
                              Officer approval and is not part of the basic  
                              instructor qualification syllabus.
- MOD 04:                   • Can be flown in any order.

2. Briefing and Debriefing. Adequate briefing time shall be provided and utilized. The applicable items listed in the NATOPS Pocket Checklist and Briefing Guides must be briefed. For multi-plane flights, all flight members, i.e., instructors, observers, students, and passengers will be briefed by the flight leader in the briefing area. Although IUTs may be briefed early on fundamental techniques, all members of the flight will be in attendance for the final "conduct of flight" portion of the brief.

a. Briefing. Briefing will be conducted in accordance with OPNAVINST 3710.7R, NATOPS, Briefing Guides, and Training Air Wing Standard Operating Procedures (SOPs).

b. Debriefing. Timely debriefing of each simulator and flight event is an essential part of the learning process. The minimum items that shall be covered in the debrief are:

(1) Overall review of the event plan in chronological order, citing completion, omissions and deletions of prerequisite exercises.

(2) Accomplishment of learning objectives.

(3) Specific comments on above average (AA), below average (BA) and unsatisfactory (UNSAT) performance. Discussion should focus on causes, as well as effects of performance.

c. Designated Flight Leader. For all multi-plane flights involving two or more flight instructors, the designated flight leader will be responsible for compliance with OPNAVINST 3710.7R and with the provisions of paragraph 2a above. In all appropriate cases the designated instructor shall retain the formation leader status as defined by OPNAVINST 3710.7R.

d. IUTs may brief late stage flights.

### 3. Schedule Limitations

#### a. Jet Transition and Basic Instructor Qualification

(1) The IUT's working day from first scheduled event until completion of the last event of the day (including associated paperwork and debrief) shall not exceed 12 hours.

(2) A minimum of 12 hours shall elapse between the conclusion of the IUT's last scheduled event of the day (including associated debrief) and his/her first scheduled event of the following day.

(3) The maximum workweek is 6 days followed by 1 day off, except as waived in writing by the Training Air Wing (TRAWING) Commander.

(4) All night flights shall take off no earlier than 30 minutes past official sunset.

(5) A maximum of two flights or three cross-country legs may be scheduled in one day.

(6) 1.5 hours of night time and three night instrument approaches shall be accumulated prior to the IUT AN-04X. (These requirements must be met during aircraft flights.)

b. Advanced Instructor Qualification. Schedule limitations of the workday and workweek shall be in accordance with local procedures.

4. Standardization. All simulator and flight events outlined herein shall be conducted in accordance with the current CNATRA Flight Training Instructions (FTIs) and the T-45C NATOPS Flight Manual.

5. Solo Maneuver Restrictions. IUTs are prohibited from performing solo flight until they have successfully completed NATOPS Stage and possess a current instrument rating.

6. Administration

a. Instructor Training Forms (ITFs)

(1) A CNATRA ITF will be completed for each curriculum flight or simulator event. All items graded unsatisfactory, below average or above average shall be commented upon in the remarks section.

(2) ITFs shall be graded the same day the event was conducted.

(3) Flights requiring dual touch-and-go landings shall include remarks on landing performance using notation format listed in the LSO NATOPS.

(4) Instructors omitting items from a flight called for in the curriculum shall note the reason for the omission in the remarks section and make the appropriate notation in the grade column (per para 11, i.e., DND, NA...).

(5) Check flights will be noted as such on the IUT's ITF.

(6) On multi-plane flights, items completed but unobserved shall not be graded by the flight leader.

(7) FCLP ITFs shall be completed for all flight events as follows: FCLP-02 and FCLP-03X (1 ITF), FCLP-04 through FCLP-18 (1 ITF), FCLP-19X (1 ITF), and CQ-01X (1 ITF) if flown.

b. Warm-up Criteria. Warm-up flights may be given as necessary to regain flight proficiency after prolonged delays in training at the discretion of COMTRAWING ONE/Commanding Officer. The following specific guidelines govern warm-up flights:

(1) Warm-up ITFs do not have to be marked with an unsatisfactory grade to justify an additional warm-up if the overall performance is not up to standard. Warm-up grades are not included in the cumulative totals and unsatisfactory grades do not constitute a "down" unless:

(a) The IUT demonstrates flagrant safety or flight rule violations, or a dangerous tendency.

(b) The IUT is not safe for solo and the next normally scheduled event is a solo flight.

(2) If it is determined that an IUT scheduled for a simulator requires a warm-up the IUT shall fly his/her warm-up in the simulator. If it is determined that an IUT scheduled for an aircraft flight requires a warm-up the IUT shall fly the warm-up in an aircraft. Any instrument stage warm-up shall be flown in a simulator.

c. Instructor Training Jacket (ITJ). ITJs will include ITFs of all qualified stages, standardization checks and individual qualifications, such as section and division leader qualifications.

d. Instrument Rating. IUTs will receive training in instrument flight necessary to qualify for a Standard Instrument Rating in accordance with OPNAVINST 3710.7S.

7. Waiving Events. The flight, simulator, and ground training events listed in this curriculum are the optimum to be completed by each IUT. Training events may be waived or combined at the discretion of the TRAWING commander.

8. Incomplete Flights. Incomplete events may be completed during the following event if time and fuel are available.

9. Aerobatic Maneuvers. Aerobatic maneuvers shall be conducted in accordance with OPNAVINST 3710.7S.

10. Emergency Procedures. Knowledge and response to emergency procedures will be evaluated through simulated emergencies conducted in accordance with the T-45C NATOPS Flight manual during individual stage simulator events and flights.

11. Weather Minimums and Requirements

#### STAGE WEATHER REQUIREMENTS

FAM Local weather minimums for touch-and-go landings and adequate reference for aerobatic maneuvers, clear of clouds.

OCF ACM weather requirements.

NFAM Local weather minimums for touch-and-go landings.  
No ceiling below en route flight altitudes and not  
less than 5 miles visibility on navigation route.

BI/RI/AN OPNAV minimums.

FORM OPNAV minimums. A maximum of two events may utilize  
TACAN circling minimums with suitable alternate and  
VFR on top. At least two events shall utilize local  
weather adequate for running rendezvous and VFR  
formation recovery.

ON 3000/5 on the route.

WEP 8500/5 30-degree pattern, 6500/5 20-degree pattern,  
3000/5 10-degree pattern.

TACF OPNAV minimums.

ACM OPNAV minimums. Wx in OPAREA in accordance with  
CNATRA training rules.

FCLP Local weather minimums for FCLP.

12. Flight/Simulator Interchangeability. Flight and simulator  
events may not be interchanged without approval of the TRAWING  
commander.

13. Definitions. The following terms and symbols found in the  
curriculum will be applied to flight instruction as defined  
below:

a. Discuss

Instructor: Quiz the IUT on the applicable procedures,  
systems or maneuvers.

IUT: Responsible for knowledge of the  
procedures prior to the event brief.

Item: Graded with an "X" by the instructor in  
the grade columns on the Instructor  
Training Form (ITF), labeled "E" in the  
"ID" column. If this is not available on  
the ITF, they should be graded in the most  
appropriate area (e.g., HW, PROC or BAW).

b. Brief

Instructor: Brief the IUT on the applicable procedures.

IUT: Responsible for knowledge of the procedures prior to the event brief.

Item: Not graded, but marked with "BRF" by the instructor in the grade columns on the ITF, labeled "B" in the "ID" column.

c. Demonstrate

Instructor: Perform the maneuver with precision and accompanying description.

IUT: Responsible for knowledge of the procedures prior to the event brief and observes the maneuver.

Item: Not graded, but marked with "DEMO" by the instructor in the grade columns on the ITF, labeled "D" in the "ID" column.

d. Introduce

Instructor: Coaches the IUT through the maneuver as necessary, and/or may redemonstrate the maneuver.

IUT: Responsible for knowledge of the procedures prior to the event brief and perform the maneuver with coaching as necessary.

Item: Graded with an "X" by the instructor in the grade columns on the ITF, labeled "I" in the "ID" column.

e. Practice

Instructor: Observe the IUT with minimal coaching; may also demonstrate the maneuver if necessary.

IUT: Must perform maneuver with minimal coaching.

Item: Graded with an "X" by the instructor in the grade columns on the ITF, labeled "P" in the "ID" column.

f. Review

Instructor: Observe and grade the maneuver without coaching; airborne critique is encouraged.

IUT: Expected to perform the maneuver without coaching and devoid of procedural errors. The level of performance must warrant progression to the next stage or phase of training.

Item: Graded with an "X" by the instructor in the grade columns on the ITF, labeled "R" in the "ID" column.

g. Non-Graded

Instructor: Observe maneuver; item will be graded only if performed above average, below average or unsatisfactory.

IUT: Expected to perform the maneuver without coaching and devoid of procedural errors. The level of performance must warrant progression to the next stage or phase of training.

Item: Not graded, but marked with "**NG**" by the instructor in the grade columns on the ITF, labeled "NG" in the "ID" column, if the IUT's performance is average. Graded with an "**X**" in the appropriate grade column if the IUT's performance for that maneuver was **other than average**.

h. Did Not Do

Instructor: A required item on the ITF, which was not done or completed for various reasons (i.e., weather, aircraft malfunctions, etc.).

IUT: Maintain and present a copy of the ITF to the instructor of the next like event so the next instructor is clear about all PGI/DND item(s).

Item: Not graded, but marked with "DND" by the instructor in the grade columns on the ITF. If the event is incomplete an associated remark is required. One incomplete item constitutes an incomplete event. Every item previously marked "DND" shall be either graded appropriately, or marked "DND" if incomplete again.

i. Not Applicable

Not graded, but marked with "NA" by the instructor in the grade columns on the ITF. This is used ONLY for items in the following categories LABELED on the ITF as: (Optional), (Fuel permitting), (If done), or its equivalent.

j. Previously Graded Item

Instructor: A maneuver previously graded on an incomplete event. The item may be flown on the next attempt at that event if fuel/time permits or if required in order to accomplish the previously "DND" item(s) (e.g., Ground Procedures, Taxi, Take-off, etc). If the IUT's performance is anything other than average on any previously graded item it shall be graded again.

IUT: If required, perform the maneuver again, expected to do so at the level shown in the "ID" column.

Item: Not graded, but marked with "**PGI**" by the instructor on the ITF in the appropriate grade column if the IUT's performance for that item was **average** or if it was not performed again. Graded with an "**X**" by the instructor on the ITF in the appropriate grade columns if the IUT's performance for that item was **other than average**.

k. Not Observed Normally used for IUT solo events.

Instructor: ODO/FDO/RDO/SODO shall brief the IUT thoroughly to ensure preparedness.



IUT: The IUT is expected to perform the maneuver as briefed to the skill level stipulated in the review description above.

Item: Not graded, but marked with "**NOB**" by the ODO/FDO/RDO/SODO on the ITF. Graded with an "**X**" in the appropriate grade columns as observed by a qualified instructor (i.e., ODO, FDO, RDO, SODO, Section/Division Leader, etc), if the IUT's performance for that maneuver was **other than average**.

1. "S"-Coded Flights

IUT instructional flights designated by the "S" (e.g., BI-01S) are flown in the flight simulator.

14. IUT Performance Criteria. Flight performance criteria are delineated as standards of performance outlined in Appendix A. Performance criteria and acceptable standards are defined in CNATRAINST 1500.4F.

15. Flight Support. Prior to the first simulator or aircraft event, and prior to designated curriculum check events, each IUT shall successfully pass a flight procedures examination covering the appropriate stage. Failure of the examination shall constitute an observed down for preflight preparation and shall be processed in the normal manner.

16. Extra Time Events. Extra time flight and simulator instruction shall be governed by the limits prescribed in CNATRAINST 1500.4F.

17. Modifying Instructor Training Curriculum. The T-45C Jet Transition Strike Flight Instructor Training Curriculum was developed to provide the average non-carrier qualified Naval Aviator with the skills necessary to become an effective flight instructor. Modifications to this curriculum may be necessary to individualize the training needs of non-carrier qualified aviators, lacking the skills required to successfully complete an IUT stage.

18. Training Time Out Policy. Any time an IUT or instructor has apprehension concerning his or her personal safety or that of another, he or she shall signal for a "Training Time Out" to clarify the situation and receive or provide additional instruction. "Training Time Out" signals other than verbal shall be appropriate to the training environment and clearly briefed.

TRAINING SUMMARY

1. Training Hour Summary

FLIGHT TRAINING HOURS

STAGE	TOTAL FLIGHTS	TOTAL HOURS	DUAL FLIGHTS	DUAL HOURS	SOLO FLIGHTS	SOLO HOURS
BI	2	3.0	2	3.0	0	0.0
RI	3	4.8	3	4.8	0	0.0
FAM	11	14.3	10	13.0	1	1.3
OCF	1	0.6	1	0.6	0	0.0
NFAM	1	0.8	1	0.8	0	0.0
AN	2	3.0	2	3.0	0	0.0
NA	8	11.3	8	11.3	0	0.0
IR	1	1.5	1	1.5	0	0.0
FCLP	18	10.8	2	1.2	16	9.6
TOTAL	47	50.1	30	39.2	17	10.9

BASIC INSTRUCTOR QUALIFICATION

STAGE	TOTAL FLIGHTS	TOTAL HOURS	DUAL FLIGHTS	DUAL HOURS	SOLO FLIGHTS	SOLO HOURS
FAM	3	3.9	3	3.9	0	0.0
BI	2	3.0	2	3.0	0	0.0
RI	2	3.0	2	3.0	0	0.0
AN	2	3.0	2	3.0	0	0.0
NFAM	3	3.0	3	3.0	0	0.0
TOTAL	12	15.9	12	15.9	0	0.0

ADVANCED INSTRUCTOR QUALIFICATION

STAGE	TOTAL FLIGHTS	TOTAL HOURS	DUAL FLIGHTS	DUAL HOURS	SOLO FLIGHTS	SOLO HOURS
FORM	20	30.0	19	28.5	1	1.5
NFORM	6	9.0	6	9.0	0	0.0
ON	11	13.5	11	13.5	0	0.0
WEPS	9	11.7	7	9.1	2	2.6
TACF	6	7.2	6	7.2	0	0.0
ACM	15	16.9	14	15.8	1	1.1
OCF	1	1.0	1	1.0	0	0.0
TOTAL	68	89.3	64	84.1	4	5.2

SIMULATOR TRAINING HOURS

STAGE	TOTAL EVENTS	TOTAL HOURS	OFT EVENTS	OFT HOURS	IFT EVENTS	IFT HOURS
CO	2	3.0	2	3.0	0	0.0
EP	4	6.0	3	4.5	1	1.5
BI	5	7.5	0	0.0	5	7.5
RI	4	6.0	2	3.0	2	3.0
FAM	3	4.5	3	4.5	0	0.0
OCF	1	1.5	1	1.5	0	0.0
NA	6	9.0	5	7.5	1	1.5
FCLP	1	1.5	1	1.5	0	0.0
TOTAL	26	39.0	17	25.5	9	13.5

BASIC INSTRUCTOR QUALIFICATION

STAGE	TOTAL EVENTS	TOTAL HOURS	OFT EVENTS	OFT HOURS	IFT EVENTS	IFT HOURS
BI	1	1.5	0	0.0	1	1.5
RI	1	1.5	0	0.0	1	1.5
TOTAL	2	3.0	0	0.0	2	3.0

ADVANCED QUALIFICATIONS

STAGE	TOTAL EVENTS	TOTAL HOURS	OFT EVENTS	OFT HOURS	IFT EVENTS	IFT HOURS
FORM	1	1.5	1	1.5	0	0.0
ON	2	3.0	2	3.0	0	0.0
WEPS	5	5.3	5	5.3	0	0.0
OCF	1	1.5	1	1.5	0	0.0
TOTAL	9	11.3	9	11.3	0	0.0

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FLIGHT SUPPORT TRAINING HOURS

JET TRANSITION & BASIC QUALIFICATION FLIGHT SUPPORT

<u>SUBJECT</u>	<u>SYMBOL</u>	<u>PERIOD</u>	<u>HOURS</u>
Course Rules	CR	3	3.5
Aircrew Coordination Training	ACT	1	3.0
NACES	SEAT	1	2.0
Operational Risk Management	ORM	1	1.0
Cockpit Orientation	CO	8	9.4
Emergency Procedures	EMFP	11	14.5
Basic Instruments	BIFP	10	9.5
Radio Instruments	RIFP	5	7.7
Familiarization	FAMFP	3	7.7
Out-of-Control Flight	OCFFP	1	1.0
Night Familiarization	NFAMFP	3	3.5
Formation	FFP	6	6.9
NATOPS/NATOPS Examinations	NATOPS	3	6.0
Instrument Rating	IRFP	3	4.0
Carrier Qualification (FCLP)	CQFP	6	7.5
TOTAL		65	87.2

ADVANCED INSTRUCTOR FLIGHT SUPPORT

<u>SUBJECT</u>	<u>SYMBOL</u>	<u>PERIOD</u>	<u>HOURS</u>
Formation	FFP	2	2.5
Night Formation	NFFP	2	2.2
ONAV Flight Procedures	ONFP	5	5.1
Tactical Formation	TFFP	4	4.7
Weapons	WEPFP	5	4.8
Out-of-Control Flight	OCFFP	2	2.0
Air Combat Maneuvering	ACMFP	7	8.3
TOTAL		27	29.6

ACADEMICS INSTRUCTION HOURS

<u>SUBJECT</u>	<u>SYMBOL</u>	<u>PERIOD</u>	<u>HOURS</u>
Aviation Student Indoctrination	ASI	6	5.8
Engineering	ENG	30	32.8
Aerodynamics	AERO	6	6.5
Instrument Navigation	INAV	12	13.0
ONAV Ground School	ONAV	6	28.0
TOTAL		60	86.1

2. Training Allocation by Module

MOD	FLIGHT		SIMULATOR		FLT SUPPORT		ACADEMICS	
	HOURS	EVENTS	HOURS	EVENTS	HOURS	EVENTS	HOURS	EVENTS
00							3.3	4
01			3.0	2	13.4	10	53.3	49
02	39.3	29	33.0	22	66.3	49	0.0	0
03	10.8	18	3.0	2	7.5	6	1.5	1
04	15.9	12	3.0	2	0.0	0		
05	39.0	26	1.5	1	4.7	4		
06	20.0	20	8.3	7	8.5	8	28.0	6
07	30.3	22	1.5	1	16.4	15		
TOTAL	155.3	127	53.3	37	116.8	92	86.1	60

3. Training Time Analysis. The following table shows the additional training time involved for each programmed curriculum hour, flight or simulator event. The figures represent the average additional time an IUT is involved in the direct learning process, either in preparation for, or utilizing training equipment.

ADDITIONAL TRAINING TIME PER PROGRAM CURRICULUM HOUR (ch)  
or EVENT (e)

Training Area	Preparation And Study	Brief and Debrief	Preflight/Start Taxi	Total (k)
Flight	1.00	2.00	0.50	3.50
Simulator	1.00	1.00		2.00*
Academic and Flight Support**	0.50			0.50***

\* Additional training time per event.

\*\* Self-preparation and study time for academic and flight support may include audio-visual training aids.

\*\*\* Additional training time per curriculum hour.

a. Administrative Time. Transit time from activity to activity, meals, scheduling delays and military watch standing duties are not considered. The IUT-training week is based on 6 hours of training per day, 5 days a week (30 hours).

Computation of curriculum time is based on the following formula:

ch = Curriculum hours  
e = Events  
k = Additional training time per curriculum hour or event  
Tc = Total curriculum time

$$\frac{ch + (ch \times k) \text{ or } (e \times k)}{6 \text{ (hrs per day) or } 30 \text{ (hrs per week)}} = Tc \text{ (days) or (weeks)}$$

The Tc calculated is the total contact time required to complete the phase of training.

b. Time-To-Train (Tt). The following factors are considered in computing time-to-train: weather, unsatisfactory events and associated delays, medical groundings, and flight or simulator events canceled due to lack of instructor or equipment availability. The combination of these factors constitutes additional time ( $\Delta t$ ) required to train expressed as a percentage of the curriculum time ( $T_c$ ). The  $\Delta t$  for the T-45C Jet Transition Strike Flight Instructor Training Curriculum is 15.0%. The formula for computing time-to-train ( $T_t$ ) is as follows:

$$T_c + (T_c \times \Delta t) = T_t$$

T-45C JET TRANSITION/BASIC INSTRUCTOR QUALIFICATION TIME-TO-TRAIN  
(MODULES 00 THROUGH 04)

Training Area		Training Days	Training Weeks	Calendar Weeks
Flight:	66.0 hours 59 events	42.96	8.59	9.45
Simulator: OFT	25.5 hours 17 events	9.92	1.98	2.18
IFT	16.5 hours 11 events	6.42	1.28	1.41
Academic:	58.1 hours	14.53	2.91	3.20
Flight Support:	87.2 hours	21.80	4.36	4.80
Curriculum Time ( $T_c$ )		95.63	19.12	21.04
$\Delta t(15\% \times T_c)$		<u>14.34</u>	<u>2.87</u>	<u>3.16</u>
Time-to-Train ( $T_t$ )		109.97	21.99	24.20

The conversion of time-to-train to approximate calendar days can be calculated using the following formula:

$$\frac{T_t}{\text{working days/days per year}} = \text{Approximate calendar days*}$$

To convert to calendar weeks:  $\frac{\text{calendar days}}{7 \text{ days/week}} = \text{calendar weeks}$

$$\frac{110*}{237/365} = \text{calendar days} \quad \frac{170}{7} \text{ Days} = 24.29 \text{ calendar weeks}$$

\* Training days rounded to next whole day.

4. Module Summary

<u>MODULE</u>	<u>FLIGHTS</u>	<u>SIMULATORS</u>	<u>FLIGHT SUPPORT</u>	<u>ACADEMICS</u>
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00 (Aviation Student Indoctrination)

ASI-01-  
ASI-04

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01 (Academic and Flight Preparation)

	CO-07S	CR-01	ENG-01-
	CO-08S	ACT-01	ENG-30X
		SEAT-01	AERO-01-
		ORM-01	AERO-06
		CO-01-	INAV-01-
		CO-06	INAV-12X
			ASI-05

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02 (Instruments/Familiarization/NATOPS Qualification)

BI-06	EP-01S	EMFP-01 -	
BI-07X	EP-02S	EMFP-11X	
RI-05 -	BI-01S -	BIFP-01 -	
RI-07X	BI-05SX	BIFP-10X	
FAM-03	RI-01S -	RIFP-01 -	
FAM-04	RI-04SX	RIFP-05X	
FAM-06 -	FAM-01S	CR-02	
FAM-11	FAM-02S	CR-03X	
OCF-02	EP-03S	CO-09	
IR-01X	FAM-05S	CO-10	
FAM-12X -	OCF-01S	FAMFP-01 -	
FAM-14	NA-01S -	FAMFP-03X	
NFAM-01	NA-03S	OCFFP-01	
AN-01	NA-07S	NATOPS-01 -	
AN-02	NA-09S	NATOPS-03X	
NA-04-	NA-13SX	IRFP-01 -	
NA-06		IRFP-03X	
NA-08		NFAMFP-01 -	
NA-10 -		NFAMFP-03X	
NA-12		FFP-01-	
NA-14X		FFP-06X	

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03 (Field Carrier Landing Practice)

FCLP-02 -	FCLP-01S	CQFP-01 -	ASI-06
FCLP-19X	EP-04S	CQFP-06X	
CQ-01X			

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<u>MODULE</u>	<u>FLIGHTS</u>	<u>SIMULATORS</u>	<u>FLIGHT SUPPORT</u>	<u>ACADEMICS</u>
04 (Basic Instructor Qualification)				
	FAM-15 - FAM-17X	BI-08S RI-08S		
	BI-09 BI-10X RI-09 RI-10X AN-03 AN-04X NFAM-02 - NFAM-04X			
05 (Advanced Qualifications)				
	FORM-02 - FORM-21X NFORM-01 - NFORM-06X	FORM-01S	FFP-07 FFP-08X NFFP-01 NFFP-02X	
06 (ONAV and Weapons Advanced Qualifications)				
	ON-03 - ON-09X WEP-06 - WEP-14X	ON-01S ON-02S WEP-01S - WEP-05SX	ONFP-01 - ONFP-03X WEPFP-01 - WEPFP-05X	ONAV-01 - ONAV-06X
07 (Out-of-Control Flight and Air Combat Maneuvering)				
	TACF-01 - TACF-06X ON-10 - ON-13X OCF-04X ACM-01 - ACM-15X	OCF-03S	TFFP-01 - TFFP-04X ONFP-04 ONFP-05X ACMFP-01 - ACMFP-07X OCFFP-02 OCFFP-03X	

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5. Summary of Lead/Chase Overhead. The summary of the Instructor Lead/Chase planning factor hours for the T-45C Jet Transition Strike Flight Instructor Training Curriculum are tabulated below. The tables are a compilation of the sorties requiring Instructor Chase that can be found in the Module Summary section of this publication.

STAGE	# EVENTS	LEAD/CHASE HRS/EVENT	# OF IUT's PER CHASE	HRS/IUT
NA (2 PLANE)	1	1.3	1	1.30
FORM (2 PLANE)	15	1.3	1	19.50
FORM (4 PLANE)	5	1.3	3	2.17
NFORM	6	1.3	1	7.80
ON	4	1.1	2	2.20
WEP	9	1.1	3	3.30
TACF	6	1.0	1	6.00
ACM (2 PLANE)	11	0.9	1	9.90
ACM (3 PLANE)	4	1.0	2	2.00

Total T-45C Jet Transition Strike Flight  
Instructor Training Curriculum Chase Overhead = 54.17

NOTE: Lead/Chase Hours per Event are derived by subtracting 0.2 hours from the IUT sortie length. This accounts for IUT touch and go's while the lead full stops first pass.

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6. Outline of Training

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BASIC INSTRUCTOR QUALIFICATION

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ADVANCED INSTRUCTOR QUALIFICATION

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MODULE 00

AVIATION STUDENT INDOCTRINATION (ASI)

OBJECTIVE: Indoctrinate the IUT on procedures, system usage and command policies required to receive prescribed training in the T-45C Jet Transition Strike Flight Instructor Training Curriculum.

Includes: Aviation Student Indoctrination (ASI-01 through ASI-04).

NOTE 1: There are no examinations in this module. The CAI introduction lesson will provide procedures for taking examinations. Academic and flight support examinations are normally taken in the Learning Center. CAI administered examinations may require materials such as examination booklets, video materials, NATOPS, etc. The IUT should check the examination booklet prior to logging on CAI for the examination. Read the examination instructions carefully. Contact the instructor or Learning Center monitor if problems are encountered.

NOTE 2: ASI can be completed in any sequence. ASI-02 must be completed prior to ENG-03.

<u>MODULE</u>	<u>MEDIA</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
00-01	LECT	ASI-01	GROUND RULES	0.3
00-02	MIL	ASI-02	INTRODUCTION TO TRAINING INTEGRATION SYSTEM (TIS)	1.0
00-03	CAI	ASI-03	INTRODUCTION TO CAI	0.5
00-04	MIL	ASI-04	INTRODUCTION TO IFT	1.5

MODULE 01

ACADEMICS AND FLIGHT PREPARATION

OBJECTIVE: Provide the IUT with a comprehensive academic base of knowledge in T-45C Systems (Engineering), T-45C specific Aerodynamics, Meteorology, Instrument Navigation, Course Rules, NACES Flight Physiology, Aircrew Coordination Training, and a complete NATOPS simulator/flight qualification, concluding with a standardization check flight.

Includes: Engineering (ENG-01 through ENG-30X); Aerodynamics (AERO-01 through AERO-06); Instrument Navigation (INAV-01 through INAV-12X); Course Rules (CR-01 and CR-02X); NACES Flight Physiology (SEAT-01); Aircrew Coordination Training (ACT-01); Cockpit Orientation lessons and simulators (CO-01 through CO-08S); and Aviation Student Indoctrination (ASI-05).

NOTE : ACT-01, ORM-01, and SEAT-01 should be completed prior to CO-07S.

<u>MODULE</u>	<u>MEDIA</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
01-01	MIL	ENG-01	INTRODUCTION TO T-45C CONFIGURATION	1.3
01-02	MIL	ENG-02	ELECTRICAL SYSTEM	1.3
01-03	CAI	ENG-03	ELECTRICAL SYSTEM MALFUNCTIONS	0.7
01-04	MIL	ENG-04	ENGINE AND RELATED SYSTEMS	1.5
01-05	CAI	ENG-05	ENGINE AND RELATED SYSTEMS MALFUNCTIONS	1.4
01-06	CAI	ENG-06	ENGINE SYSTEM MALFUNCTIONS	0.7
01-07	MIL	ENG-07	AIRCRAFT FUEL SYSTEM	0.9
01-08	CAI	ENG-08	FUEL SYSTEM MALFUNCTIONS	0.5
01-09	MIL	ENG-09	HYDRAULIC SYSTEM	1.0

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
01-10	CAI	ENG-10	HYDRAULIC SYSTEM MALFUNCTIONS	1.0
01-11	MIL	ENG-11	HYDRAULIC SUBSYSTEMS	1.8
01-12	CAI	ENG-12	HYDRAULIC SUBSYSTEMS MALFUNCTIONS	1.0
01-13	MIL	ENG-13	FLIGHT CONTROL SYSTEM	1.3
01-14	CAI	ENG-14	FLIGHT CONTROL SYSTEM MALFUNCTIONS	0.7
01-15	MIL	ENG-15	EGRESS SYSTEM	1.0
01-16	CAI	ENG-16	EGRESS SYSTEM MALFUNCTIONS	0.5
01-17	MIL	ENG-17	OBOGS AND ECS/PRESSURIZATION SYSTEMS	0.9
01-18	CAI	ENG-18	OBOGS AND ECS/PRESSURIZATION SYSTEM MALFUNCTIONS	0.5
01-19	MIL	ENG-19	FLIGHT INSTRUMENTS	1.3
01-20	CAI	ENG-20	FLIGHT INSTRUMENTS MALFUNCTIONS	0.8
01-21	MIL	ENG-21	CNI SYSTEM	1.7
01-22	CAI	ENG-22	CNI SYSTEM MALFUNCTIONS	1.0
01-23	MIL	ENG-23	OTHER T-45C SYSTEMS	1.0
01-24	MIL	ENG-24	INS/GPS OPERATIONS AND CONCEPTS	1.5
01-25	CAI	ENG-25	DISPLAY SYSTEM AND MALFUNCTIONS	1.5
01-26	MIL	ENG-26	ENGINE START PROCEDURES	1.0
01-27	CAI	ENG-27	ENGINEERING REVIEW	2.0
01-28	MIL	ENG-28	ENGINEERING REVIEW	1.0
01-29	CAI	ENG-29X	ENGINEERING BLOCK EXAMINATION	1.0

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
01-30	CAI	ENG-30X	ENGINEERING BLOCK EXAMINATION	1.0
01-31	CAI	AERO-01	GENERAL AERODYNAMICS REVIEW	0.5
01-32	MIL	AERO-02	HIGH-SPEED FLIGHT	1.0
01-33	MIL	AERO-03	SLOW SPEED FLIGHT, STALL AND SPIN, AND AOA SYSTEM	1.5
01-34	MIL	AERO-04	STABILITY	0.5
01-35	CAI	AERO-05	ENGINE THRUST AND THRUST CURVE REVIEW	0.5
01-36	MIL	AERO-06	NATOPS PERFORMANCE CHARTS	2.5
01-37	LAB	INAV-01	REVIEW OF FLIP AND FAA PUBLICATIONS	1.8
01-38	MIL	INAV-02	INTRODUCTION TO INAV AND VOICE PROCEDURES	1.0
01-39	CAI	INAV-03	USE AND OPERATION OF TACAN, VOR, VOR/DME	0.8
01-40	CAI	INAV-04	COMPONENTS AND CHARACTERISTICS OF THE INSTRUMENT LANDING SYSTEM (ILS)	0.8
01-41	CAI	INAV-05	TACAN/VOR NAVIGATION AND HOLDING PROCEDURES	0.8
01-42	MIL	INAV-06	DEPARTURE AND TERMINAL PROCEDURES	1.0
01-43	CAI	INAV-07	INTERPRETATION OF HIGH ALTITUDE INSTRUMENT APPROACH PLATES	0.8
01-44	LAB	INAV-08	FUEL, WEATHER, AND ALTERNATE AIRFIELD PLANNING	1.2
01-45	MIL	INAV-09	FLIGHT PLANNING (DEPARTURE)	0.8
01-46	MIL	INAV-10	FLIGHT PLANNING (EN ROUTE)	1.0
01-47	LAB	INAV-11	PRACTICAL PROBLEMS	1.0



MODULE	MEDIA	SYMBOL	DISCRIPTION	DURATION
01-48	CAI	INAV-12X	INSTRUMENT NAVIGATION BLOCK EXAMINATION	2.0
01-49	MIL	CR-01	BI/RI COURSE RULES	0.5
01-50	LECT	ACT-01	AIRCREW COORDINATION TRAINING	3.0
01-51	LECT	ORM-01	OPERATIONAL RISK MANAGEMENT	1.0
01-52	MIL	SEAT-01	NACES FLIGHT PHYSIOLOGY	2.0
01-53	CAI	CO-01	EXTERIOR PREFLIGHT CHECKS	0.6
01-54	CAI	CO-02	ENGINE START AND POST-START	1.0
01-55	CAI	CO-03	MULTI-FUNCTION DISPLAY AND NAVIGATION SYSTEM OPERATION	2.3
01-56	CAI	CO-04	DISPLAY SYSTEM (HUD)	0.8
01-57	CAI	CO-05	WAYPOINT NAVIGATION PROCEDURES	1.2
01-58	LECT	CO-06	EJECTION SEAT LECTURE/NACES PREFLIGHT	1.0
01-59	MIL	ASI-05	INTRODUCTION TO THE TRAINING INTEGRATION SYSTEM, PART 2	1.0
01-60	OFT	CO-07S	COCKPIT ORIENTATION SEVEN SIMULATOR	1.5
01-61	OFT	CO-08S	COCKPIT ORIENTATION EIGHT SIMULATOR	1.5

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
01-60	OFT	CO-07S	COCKPIT ORIENTATION SEVEN SIMULATOR	1.5

Brief:

- a. QOD
- b. Ground signals
- c. Final checker
- d. Shutdown signals

Demonstrate:

- a. Enter mission data
- b. Takeoff

Introduce:

- a. Canopy/ejection seat preflight
- b. Strap-in procedures
- c. Cockpit/display orientation
- d. Cockpit preflight checklist
- e. Prestart checklist
- f. Aircraft start
- g. Post-start checklist
- h. Display Management
- i. Ground communications
- j. Taxi checklist
- k. Aircraft taxi
- l. Flight instrument checks
- m. Takeoff clearance
- n. Takeoff checklist
- o. Engine checks
- p. Departure communications
- q. 10,000-ft checklist/15-minute report
- r. En route communications
- s. Descent/penetration checklist/RADALT management
- t. Approach control communications
- u. VFR approach to pattern initial
- v. Communication to tower
- w. Landing checklist
- x. After landing communications
- y. After landing checklist
- z. Aircraft shutdown
- aa. Shutdown checklist
- bb. Normal egress procedures

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
01-61	OFT	CO-08S	COCKPIT ORIENTATION EIGHT SIMULATOR	1.5

Brief:

- a. QOD
- b. Abnormal alignment procedures

Introduce:

- a. Takeoff clearance
- b. Departure communications
- c. En route communications
- d. Full system utilization
- e. Approach control communications
- f. VFR approach to pattern initial
- g. Communications to tower
- h. After landing communications
- i. Check/test CNI system
- j. Check/test ECS
- k. Check/test electrical

Practice:

- a. Don flight equipment
- b. Strap-in procedures
- c. Cockpit preflight checklist
- d. Prestart checklist
- e. Aircraft start
- f. Poststart checklist
- g. Ground communications
- h. Taxi checklist
- i. Aircraft taxi
- j. Flight instrument checks
- k. Takeoff checklist
- l. Engine checks
- m. Takeoff
- n. 10,000-ft checklist/15-minute report
- o. Descent/penetration checklist/RADALT  
Management
- p. Landing checklist
- q. After landing checklist
- r. Shutdown checklist
- s. Normal egress procedures

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MODULE 02

JET TRANSITION

OBJECTIVES:

1. Basic Instrument Stage. Develop the IUT's instrument flying skill with emphasis on scan, aircraft control, pattern and instrument interpretation.

Includes: Emergency Flight Procedures (EMFP-01 through EMFP-11X); Emergency Procedures simulators (EP-01S and EP-02S), Basic Instrument Flight Procedures (BIFP-01 through BIFP-10X), Basic Instruments simulators and flights (BI-01S through BI-07X).

NOTE: Basic Instruments (BI-01S through BI-07X) are normally flown after completion of cockpit orientation, EMFP lessons/EP simulators and BIFP lessons.

2. Radio Instrument Stage. Enable the IUT to navigate a jet aircraft from takeoff to landing, excluding airways, under IFR conditions with emphasis on scan development, instrument interpretation, precision and non-precision approaches, aircraft control and procedural knowledge. The IUT will practice all checklists.

Includes: Radio Instrument Flight Procedures (RIFP-01 through RIFP-05X); Radio Instruments simulators and flights (RI-01S through RI-07X); and Airways Navigation flights (AN-01 and AN-02).

NOTE 1: RI-05, RI-06, and RI-07X may be flown as legs of a cross-country.

NOTE 2: One RI flight should be scheduled at night.

3. Familiarization Stage. Familiarize the IUT with normal and emergency procedures in the aircraft with emphasis on system operations, flight characteristics and landing techniques.

Includes: Course Rules (CR-02 and CR-03X); Cockpit Orientation (CO-09 and CO-10); Familiarization Flight Procedures (FAMFP-01 through FAMFP-03X); Familiarization simulator and flights (FAM-01S through FAM-14); Emergency Procedures simulator (EP-03S); Out-of-Control Flight Procedures (OCFFP-01); Out-of-Control Flight simulator and flight (OCF-01S and OCF-02); Night Familiarization Flight Procedures (NFAMFP-01 through NFAMFP-03X); Night Familiarization flight (NFAM-01) and NATOPS instruction and examinations (NATOPS-01 through NATOPS-03X).

NOTE 1: Open-book and Closed-book NATOPS examinations shall be completed prior to FAM-12X. NATOPS examinations are administered by the squadron and are paper/pencil examinations.

NOTE 2: Instrument Rating Flight Procedures and examination should be completed prior to IR-01X and FAM-12X.

NOTE 3: Instrument Rating Check (IR-01X) should be completed prior to FAM solo (FAM-13).

NOTE 4: PAs will be flown to a full stop only when dual.

NOTE 5: A minimum of three breaks must be flown prior to FAM-12X.

4. Standardization Stage. Prepare the IUT for a NATOPS check in the T-45C aircraft.

Includes: NATOPS simulators and flights (NA-01S through NA-14X) and Formation Flight Procedures (FFP-01 through FFP-06X) to support NA-09S and NA-10.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-01	MIL	EMFP-01	START, GROUND, AND TAKEOFF EMERGENCY PROCEDURES	1.5
02-02	CAI	EMFP-02	START, GROUND AND TAKEOFF EMERGENCY PROCEDURES	1.5
02-03	MIL	EMFP-03	OPERATIONAL AND EJECTION EMERGENCY PROCEDURES (INCLUDE WORKBOOKS)	1.0
02-04	MIL	EMFP-04	ENGINE AND HYDRAULIC EMERGENCY PROCEDURES	1.5
02-05	CAI	EMFP-05	ENGINE AND HYDRAULIC EMERGENCY PROCEDURES	1.5
02-06	CAI	EMFP-06X	EMERGENCY FLIGHT PROCEDURES EXAMINATION ONE	1.0
02-07	IFT/OFT	EP-01S	EMERGENCY PROCEDURES ONE SIMULATOR	1.5
02-08	MIL	EMFP-07	CANOPY AND FLIGHT CONTROL EMERGENCY PROCEDURES (INCLUDE WORKBOOKS)	1.0

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-09	MIL	EMFP-08	ELECTRICAL AND INDICATOR EMERGENCY PROCEDURES	1.5
02-10	CAI	EMFP-09	ELECTRICAL AND INDICATOR EMERGENCY PROCEDURES	1.5
02-11	MIL	EMFP-10	OPERATIONAL AND LANDING EMERGENCY PROCEDURES (INCLUDE WORKBOOKS)	1.5
02-12	CAI	EMFP-11X	EMERGENCY FLIGHT PROCEDURES EXAMINATION TWO	1.0
02-13	OFT	EP-02S	EMERGENCY PROCEDURES TWO SIMULATOR	1.5
02-14	MIL	BIFP-01	INSTRUMENT TAKEOFF AND CLIMB WITH SID	1.3
02-15	CAI	BIFP-02	INTRODUCTION TO BASIC INSTRUMENTS	0.7
02-16	CAI	BIFP-03	INSTRUMENT TURNS	0.8
02-17	CAI	BIFP-04	BASIC FLIGHT MANEUVERS AND TRANSITIONS	0.8
02-18	CAI	BIFP-05	"S" PATTERNS	0.8
02-19	MIL	BIFP-06	STALLS, UNUSUAL ATTITUDES, AND AEROBATICS	1.1
02-20	MIL	BIFP-07	TACAN AND VOR PROCEDURES	1.5
02-21	MIL	BIFP-08	GCA/ILS PROCEDURES	1.5
02-22	WKBK	BIFP-09	INSTRUMENT FAILURES AND GPS/INS FAILURES	0.0
02-23	CAI	BIFP-10X	BASIC INSTRUMENTS STAGE EXAMINATION	1.0
02-24	IFT/OFT	BI-01S	BASIC INSTRUMENTS ONE SIMULATOR	1.5
02-25	IFT/OFT	BI-02S	BASIC INSTRUMENTS TWO SIMULATOR	1.5

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-26	IFT/OFT	BI-03S	BASIC INSTRUMENTS THREE SIMULATOR	1.5
02-27	IFT/OFT	BI-04S	BASIC INSTRUMENTS FOUR SIMULATOR	1.5
02-28	IFT/OFT	BI-05SX	BASIC INSTRUMENTS FIVE SIMULATOR CHECK	1.5
02-29	T-45/RC HOOD	BI-06	BASIC INSTRUMENTS SIX	1.5
02-30	T-45/RC HOOD	BI-07X	BASIC INSTRUMENTS SEVEN CHECK	1.5
02-31	MIL	RIFP-01	INTRODUCTION TO RADIO INSTRUMENTS	2.5
02-32	CAI	RIFP-02	TACAN AND VOR PROCEDURES	0.5
02-33	CAI	RIFP-03	TACAN/VOR/ILS/PAR/ASR APPROACH PROCEDURES	1.0
02-34	MIL	RIFP-04	AIRWAYS NAVIGATION FLIGHT PROCEDURES	2.7
02-35	CAI	RIFP-05X	RADIO INSTRUMENT STAGE EXAMINATION	1.0
02-36	IFT/OFT	RI-01S	RADIO INSTRUMENTS ONE SIMULATOR	1.5
02-37	IFT/OFT	RI-02S	RADIO INSTRUMENTS TWO SIMULATOR	1.5
02-38	OFT	RI-03S	RADIO INSTRUMENTS THREE SIMULATOR	1.5
02-39	OFT	RI-04SX	RADIO INSTRUMENTS FOUR SIMULATOR CHECK	1.5
02-40	T-45/RC HOOD	RI-05	RADIO INSTRUMENTS FIVE	1.5
02-41	T-45/RC HOOD	RI-06	RADIO INSTRUMENTS SIX	1.5
02-42	T-45/RC HOOD	RI-07X	RADIO INSTRUMENTS SEVEN CHECK	1.8



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-43	MIL	CR-02	COURSE RULES	2.0
02-44	CAI	CR-03X	COURSE RULES STAGE EXAMINATION	1.0
02-45	MIL	CO-09	VELOCITY VECTOR	1.0
02-46	LAB	CO-10	AIRCRAFT PREFLIGHT	1.5
02-47	MIL	FAMFP-01	FAMILIARIZATION FLIGHT PROCEDURES	3.4
02-48	MIL	FAMFP-02	FAMILIARIZATION FLIGHT PROCEDURES	3.3
02-49	CAI	FAMFP-03X	FAMILIARIZATION STAGE EXAMINATION	1.0
02-50	OFT	FAM-01S	FAMILIARIZATION ONE SIMULATOR	1.5
02-51	OFT	FAM-02S	FAMILIARIZATION TWO SIMULATOR	1.5
02-52	T-45/FC	FAM-03	FAMILIARIZATION THREE	1.3
02-53	OFT	EP-03S	EMERGENCY PROCEDURES THREE SIMULATOR	1.5
02-54	T-45/FC	FAM-04	FAMILIARIZATION FOUR	1.3
02-55	OFT	FAM-05S	FAMILIARIZATION FIVE SIMULATOR	1.5
02-56	T-45/FC	FAM-06	FAMILIARIZATION SIX	1.3
02-57	T-45/FC	FAM-07	FAMILIARIZATION SEVEN	1.3
02-58	T-45/FC	FAM-08	FAMILIARIZATION EIGHT	1.3
02-59	T-45/FC	FAM-09	FAMILIARIZATION NINE	1.3
02-60	T-45/FC	FAM-10	FAMILIARIZATION TEN	1.3
02-61	T-45/FC	FAM-11	FAMILIARIZATION ELEVEN	1.3
02-62	MIL	OCFFP-01	OUT-OF-CONTROL FLIGHT PROCEDURES	1.0
02-63	OFT	OCF-01S	OUT-OF-CONTROL FLIGHT ONE SIMULATOR	1.5

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-64	T-45/FC	OCF-02	OUT-OF-CONTROL FLIGHT TWO	0.6
02-65	LECT	NATOPS-01	NATOPS REVIEW	2.0
02-66	PENCIL	NATOPS-02X	NATOPS OPEN-BOOK EXAMINATION	2.0
02-67	PENCIL	NATOPS-03X	NATOPS CLOSED-BOOK EXAMINATION	2.0
02-68	CAI	IRFP-01	METEOROLOGY REVIEW	1.0
02-69	MIL	IRFP-02	IR REVIEW	2.0
02-70	PENCIL	IRFP-03X	INSTRUMENT RATING OPEN - BOOK EXAMINATION	1.0
02-71	T-45/RC	IR-01X	INSTRUMENT RATING ONE CHECK	1.5
02-72	T-45/FC	FAM-12X	FAMILIARIZATION TWELVE CHECK	1.3
02-73	T-45/ SOLO	FAM-13	FAMILIARIZATION THIRTEEN	1.3
02-74	T-45/FC	FAM-14	FAMILIARIZATION FOURTEEN	1.3
02-75	MIL	NFAMFP-01	NIGHT FAMILIARIZATION FLIGHT PROCEDURES	1.3
02-76	MIL	NFAMFP-02	NIGHT EMERGENCY PROCEDURES	1.2
02-77	CAI	NFAMFP-03X	NIGHT FAMILIARIZATION STAGE EXAMINATION	1.0
02-78	T-45/FC	NFAM-01	NIGHT FAMILIARIZATION ONE	0.8
02-79	OFT	NA-01S	NATOPS ONE SIMULATOR (CO/FAM/INST)	1.5
02-80	OFT	NA-02S	NATOPS TWO SIMULATOR (FAM)	1.5
02-81	T-45/RC HOOD	AN-01	AIRWAYS NAVIGATION ONE	1.5
02-82	T-45/RC HOOD	AN-02	AIRWAYS NAVIGATION TWO	1.5
02-83	IFT/OFT	NA-03S	NATOPS THREE SIMULATOR (INST-BI)	1.5

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-84	T-45/RC HOOD	NA-04	NATOPS FOUR (INST-BI)	1.5
02-85	T-45/FC	NA-05	NATOPS FIVE (FAM)	1.3
02-86	T-45/RC HOOD	NA-06	NATOPS SIX (INST-RI)	1.5
02-87	OFT	NA-07S	NATOPS SEVEN SIMULATOR (OCF)	1.5
02-88	T-45/FC	NA-08	NATOPS EIGHT (OCF)	1.0
02-89	MIL	FFP-01	FORMATION MARSHAL, TAKEOFF, RENDEZVOUS, DEPARTURE, CLIMBOUT	1.5
02-90	MIL	FFP-02	SECTION PARADE FORMATION	1.3
02-91	MIL	FFP-03	SECTION FORMATION RECOVERY, APPROACHES, LANDING CONFIGURATION	0.8
02-92	MIL	FFP-04	FORMATION EMERGENCIES	1.5
02-93	MIL	FFP-05	FORMATION SECTION CRUISE/COLUMN	0.8
02-94	CAI	FFP-06X	FORMATION STAGE EXAMINATION	1.0
02-95	OFT	NA-09S	NATOPS NINE SIMULATOR (2 PLANE FORMATION)	1.5
02-96	T-45C/FC	NA-10	NATOPS TEN (2 PLANE FORMATION)	1.5
02-97	T-45C/FC	NA-11	NATOPS ELEVEN (FAM/INST)	1.5
02-98	T-45C/FC	NA-12	NATOPS TWELVE (NFAM)	1.5
02-99	OFT	NA-13SX	NATOPS THIRTEEN SIMULATOR CHECK	1.5
02-100	T-45C/FC	NA-14X	NATOPS FOURTEEN CHECK	1.5

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-07	IFT/OFT	EP-01S	EMERGENCY PROCEDURES ONE SIMULATOR	1.5

Brief:

- a. QOD
- b. Canopy malfunctions
- c. Engine fire on deck
- d. Ground ejection situations
- e. Engine stalls
- f. Short field arrested landing

Introduce:

- a. No READY light
- b. Wet start
- c. Low oil pressure on start
- d. Hot start
- e. Engine fire on start
- f. Hung start
- g. GTS fire
- h. Ground emergency communications
- i. Unsafe gear (UP)
- j. Fuel leak
- k. LP fuel pump failure
- l. Boost pump failure
- m. Initial shot failure
- n. CWS failure
- o. Eng fire with/without secondary indications
- p. Trim malfunctions
- q. Engine overspeed
- r. Engine flameout
- s. Airstarts
- t. ECA fail (full trim)
- u. Engine vibration
- v. Engine failure
- w. Oil pressure failure
- x. Ejection
- y. Engine fire on shutdown
- z. Emergency egress

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-13	OFT	EP-02S	EMERGENCY PROCEDURES TWO SIMULATOR	1.5

Brief:

- a. QOD
- b. Smoke/fumes/fog in cockpit
- c. Stabilator trim failure
- d. Flaps fail to retract
- e. Slats fail to retract
- f. Flaps fail to extend
- g. Slats fail to extend
- h. Split slats
- i. Gear unsafe after lowering
- j. Gear door malfunctions after lowering
- k. Long field arrested landing

Introduce:

- a. Flight control system malfunction/emergencies
- b. Swerve after touchdown
- c. Landing rollout (field) with blown tire

Practice:

- a. Ground emergency communications
- b. Engine fire on start
- c. Hung start
- d. GTS fire
- e. Trim malfunctions
- f. Engine fire, secondary indications
- g. Engine overspeed
- h. Engine flameout
- i. Airstart (high altitude)
- j. ECA fail (full trim)
- k. Engine vibration
- l. Oil pressure failure
- m. Engine failure (seizure)
- n. Ejection
- o. Hydraulic malfunction/emergency

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-24	IFT/OFT	BI-01S	BASIC INSTRUMENTS ONE SIMULATOR	1.5

Brief:

- a. QOD
- b. Battery operation during IFR
- c. Total electrical failure
- d. Main ADI failure
- e. GINA malfunctions
- f. Turn and slip failure
- g. HSI failure
- h. Half flap operation

Introduce:

- a. Brief preparation
- b. Instrument checks
- c. IFR clearances
- d. Instrument communications
- e. ITO
- f. SID
- g. Turn pattern
- h. Level speed changes
- i. Half standard rate turn
- j. Level speed change half SRT
- k. Standard rate turn
- l. Stall series
- m. Slow flight maneuver
- n. S-1 pattern
- o. S-3 pattern
- p. Partial panel timed turns
- q. Penetration check
- r. TACAN/VOR tracking
- s. TACAN/VOR DME approach
- t. Missed approach
- u. PAR approach

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-25	IFT/OFT	BI-02S	BASIC INSTRUMENTS TWO SIMULATOR	1.5

Brief:

- a. QOD
- b. FLT instrument failure
- c. ASR approach
- d. Emergencies

Introduce:

- a. Partial panel
- b. VOR penetration/approach
- c. ASR approach
- d. ILS approach
- e. Missed approach partial panel

Practice:

- a. Brief preparation
- b. Checklists/RADALT usage
- c. IFR clearance
- d. Instrument communications
- e. ITO
- f. SID
- g. Turn pattern
- h. Half standard rate turn
- i. Level speed change half SRT
- j. Standard rate turn
- k. Stall series
- l. Slow flight maneuver
- m. S-1 pattern
- n. S-3 pattern
- o. Partial panel timed turns
- p. TACAN/VOR tracking
- q. Missed approach

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-26	IFT/OFT	BI-03S	BASIC INSTRUMENTS THREE SIMULATOR	1.5

Brief:

- a. QOD
- b. Types of descents
- c. NWS failure
- d. Turn and slip failure
- e. HSI failure
- f. Multi-function display failure

Introduce:

- a. Unusual attitudes partial panel
- b. Localizer approach
- c. No gyro GCA
- d. GINA malfunctions

Practice:

- a. Brief preparation
- b. Checklists/RADALT usage
- c. Instrument communications
- d. ITO
- e. SID
- f. Level speed change half SRT
- g. S-3 pattern
- h. Unusual attitudes
- i. VOR penetration/approach
- j. TACAN/VOR DME approach partial panel
- k. Missed approach partial panel



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-27	IFT/OFT	BI-04S	BASIC INSTRUMENTS FOUR SIMULATOR	1.5

Brief:

QOD

Introduce:

- a. Aileron Roll
- b. Wingover
- c. Barrel roll

Practice:

- a. Brief preparation
- b. Checklists/RADALT usage
- c. IFR clearances
- d. Instrument communications
- e. ITO
- f. SID
- g. Turn pattern
- h. Half standard rate turn
- i. Standard rate turn
- j. Level speed changes half SRT
- k. Stall series
- l. S-1 pattern
- m. S-3 pattern
- n. Slow flight maneuver
- o. TACAN/VOR DME approach
- p. ILS approach
- q. Missed approach

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-28	IFT/OFT	BI-05SX	BASIC INSTRUMENTS FIVE SIMULATOR CHECK	1.5

Brief:

- a. QOD
- b. Safety of flight
  - (1) Speed brake failure
  - (2) #2 hydraulic failure
  - (3) Total hydraulic failure
- c. Emergency gear extension

Introduce:

- a. Half Cuban eight
- b. Loop

Review:

- a. Brief preparation
- b. Checklists/RADALT usage
- c. Instrument communications
- d. ITO
- e. SID
- f. Level speed change half SRT
- g. S-3 pattern
- h. Unusual attitudes
- i. Unusual attitudes partial panel
- j. VOR penetration/approach
- k. Missed approach
- l. TACAN/VOR/DME approach partial panel
- m. Missed approach partial panel
- n. ASR approach partial panel
- o. No gyro GCA

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-29	T-45/RC HOOD	BI-06	BASIC INSTRUMENTS SIX	1.5

Brief:

- a. QOD
- b. Approach configuration
- c. Compressor stall
- d. Flameouts
- e. Ejections

Introduce:

- a. Don flight gear
- b. Aircraft preflight
- c. Man-up and seat preflight
- d. Install hood

Practice:

- a. Checklists/RADALT usage
- b. IFR clearance
- c. Instrument communications
- d. ITO
- e. SID
- f. Turn Pattern
- g. Level speed change half SRT
- h. Stall series
- i. Slow flight
- j. S-3 pattern
- k. Partial panel
- l. Unusual attitudes
- m. TACAN/VOR DME approach
- n. Missed approach
- o. PAR approach
- p. ASR approach partial panel

NOTE: Brief should begin 2 hours prior to scheduled takeoff.

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-30	T-45/RC HOOD	BI-07X	BASIC INSTRUMENTS SEVEN CHECK	1.5

Brief:

- a. QOD
- b. Plane captain signals
- c. GCA pattern engine surges
- d. Emergency oil instrument approach

Review:

- a. IFR clearances
- b. Checklists/RADALT usage
- c. Instrument communications
- d. ITO
- e. SID
- f. S-3 pattern
- g. Stall series
- h. Unusual attitudes
- i. Unusual attitudes partial panel
- j. TACAN/VOR DME approach
- k. Missed approach
- l. Partial panel approach(es)
- m. PAR approach

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-36	IFT/OFT	RI-01S	RADIO INSTRUMENTS ONE SIMULATOR	1.5

Brief:

- a. QOD
- b. ADI failure
- c. Inverter failure

Introduce:

- a. Complete DD-175 with single-engine jet log
- b. Radar altimeter failure
- c. Point-to-point
- d. Wind corrections
- e. TACAN/VOR DME holding
- f. ILS approach partial panel
- g. ILS glideslope failure
- h. ILS localizer failure
- i. Marker beacon failure
- j. Emergency oil instrument approach

Practice:

- a. Checklists
- b. Instrument communications
- c. ITO
- d. SID
- e. ATC clearance
- f. Flight control emergencies
- g. Engine emergencies
- h. TACAN/VOR DME approach
- i. Missed approach

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-37	IFT/OFT	RI-02S	RADIO INSTRUMENTS TWO SIMULATOR	1.5

Brief:

- a. QOD
- b. High field elevation approach
- c. High density altitude takeoff
- d. GINA failure
- e. BINGO profile

Introduce:

- a. Emergency fuel GCA
- b. Lost communications
- c. VOR holding
- d. Localizer approach partial panel

Practice:

- a. Weather criteria
- b. Instrument communications
- c. SID
- d. ATC clearance
- e. Route/destination change
- f. Missed approach
- g. Emergency oil instrument approach

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-38	OFT	RI-03S	RADIO INSTRUMENTS THREE SIMULATOR	1.5

Brief:

- a. QOD
- b. HSI failure

Introduce:

- a. TACAN/VOR DME approach partial panel
- b. Localizer (LOC) back course approach
- c. BINGO profile

Practice:

- a. Complete DD-175 with single-engine jet log
- b. Point-to-point
- c. TACAN/VOR DME holding
- d. Route/destination change
- e. Missed approach
- f. ILS approach partial panel
- g. Emergency fuel approach

02-39	OFT	RI-04SX	RADIO INSTRUMENTS FOUR SIMULATOR CHECK	1.5
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Brief:

- a. QOD
- b. High altitude flight and OBOGS failure
- c. Vertigo

Review:

- a. Instrument communications
- b. SID
- c. ATC clearance
- d. Lost communications
- e. Route/destination change
- f. Point-to-point
- g. TACAN/VOR DME holding
- h. TACAN/VOR DME approach
- i. Missed approach
- j. ILS approach
- k. PAR approach
- l. Localizer (LOC) back course approach

NOTE: One approach partial panel.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-40	T-45/RC HOOD	RI-05	RADIO INSTRUMENTS FIVE	1.5

Brief:

- a. QOD
- b. Electrical system
- c. Emergencies

Practice:

- a. Complete DD-175 with single-engine jet log
- b. Checklists
- c. Instrument communications
- d. ITO
- e. SID
- f. ATC clearance
- g. Point-to-point
- h. Wind drift correction (if required)
- i. ILS approach
- j. Simulated emergencies (airborne)
- k. No gyro precision approach
- l. ASR approach partial panel
- m. Emergency fuel instrument approach



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-41	T-45/RC HOOD	RI-06	RADIO INSTRUMENTS SIX	1.5

Brief:

- a. QOD
- b. Ejection procedures
- c. Dirty TACAN/VOR approach
- d. Partial panel

Introduce:

Direct routing

Practice:

- a. Complete DD-175 with single-engine jet log
- b. Instrument communications
- c. ITO
- d. SID
- e. ATC clearance
- f. Ground speed checks
- g. Point-to-point
- h. Wind drift correction (if required)
- i. TACAN/VOR DME holding
- j. Simulated emergencies (airborne)
- k. TACAN/VOR DME approach
- l. Missed approach
- m. No gyro GCA
- n. Precision approach
- o. Emergency oil instrument approach

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-42	T-45/RC HOOD	RI-07X	RADIO INSTRUMENTS SEVEN CHECK	1.8

Brief:

- a. QOD
- b. Airstart
- c. IROK procedures
- d. Pitot static failures
- e. Full stop technique from GCA

Review:

- a. Complete DD-175 with single-engine jet log
- b. Instrument communications
- c. ITO
- d. SID
- e. ATC clearance
- f. Ground speed checks
- g. Direct routing
- h. Point-to-point
- i. Wind drift correction (if required)
- j. TACAN/VOR DME holding
- k. Simulated emergencies (airborne)
- l. TACAN/VOR DME approach partial panel
- m. Missed approach
- n. No gyro GCA
- o. PAR approach partial panel
- p. Emergency oil instrument approach

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-50	OFT	FAM-01S	FAMILIARIZATION ONE SIMULATOR	1.5

Brief:

- a. QOD
- b. Parking brake failure
- c. Lost aircraft
- d. Lost communications
- e. Loss of ECS temperature control
- f. OBOGS malfunctions

Introduce:

- a. Check/test flight control system
- b. Check/test anti-skid system
- c. Taxi/marshal/TO (ground OPS)
- d. Radio communications
- e. Normal takeoff
- f. Standard departure procedure
- g. Course rules
- h. Visual landmarks (area familiarization)
- i. Level off/cruise
- j. Turn pattern maneuvers
- k. Level flight acceleration/deceleration
- l. Slow flight maneuvers
- m. Power off stall
- n. Landing attitude maneuver
- o. Landing attitude stall
- p. Approach turn stall
- q. Aileron roll
- r. Wingover
- s. Barrel roll
- t. Overhead pattern (break)
- u. VFR landing pattern
- v. Touch-and-go full flaps/slats
- w. Full-stop full flaps/slats
- x. NWS failure
- y. Taxi-to-line and shutdown

Practice:

- a. Checklists
- b. Start malfunction/emergencies
- c. Engine emergencies
- d. Generator malfunction/emergencies

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-51	OFT	FAM-02S	FAMILIARIZATION TWO SIMULATOR	1.5

Brief:

QOD

Introduce:

- a. Break turn stall and recovery
- b. Accelerated stall and recovery
- c. Unusual attitude recoveries
- d. Straight-in approach
- e. Field arrested landing with blown tire
- f. Ejection situation (low altitude)

Practice:

- a. Checklists
- b. Taxi/marshal/TO (ground OPS)
- c. Check/test aircraft systems
- d. Start malfunction/emergencies
- e. Radio communications
- f. Abort situations
- g. Normal takeoff
- h. Standard departure procedure
- i. Course rules
- j. Turn pattern maneuvers
- k. Level flight acceleration/deceleration
- l. Slow flight maneuvers
- m. Power off stall
- n. Landing attitude maneuver
- o. Landing attitude stall
- p. Approach turn stall
- q. Aileron roll
- r. Wingover
- s. Barrel roll
- t. Overhead pattern (break)
- u. VFR landing pattern
- v. Touch-and-go full flaps/slats
- w. Hydraulic malfunction/emergencies
- x. Lost communications situations
- y. Swerve after touchdown
- z. Taxi-to-line and shutdown

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-52	T-45/FC	FAM-03	FAMILIARIZATION THREE	1.3

Brief:

- a. QOD
- b. Start emergencies

Demonstrate:

- a. Aircraft exterior preflight
- b. Postflight

Introduce:

- a. Roll-and-go full flaps/slats
- b. Waveoff

Practice:

- a. Checklists
- b. Course rules
- c. Radio communications
- d. Aircraft taxi
- e. Normal takeoff
- f. Standard departure procedure
- g. Visual landmarks (area familiarization)
- h. Level off/cruise
- i. Turn pattern maneuvers
- j. Level flight acceleration/deceleration
- k. Slow flight maneuvers
- l. Power off stall
- m. Landing attitude maneuver
- n. Landing attitude stall
- o. Approach turn stall
- p. Aileron roll
- q. Descents
- r. Overhead pattern (break)
- s. VFR landing pattern
- t. Touch-and-go full flaps/slats
- u. Simulated emergencies (airborne)
- v. Full-stop full flaps/slats

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-53	OFT	EP-03S	EMERGENCY PROCEDURES THREE SIMULATOR	1.5

Brief:

- a. QOD
- b. Flap indicator failure
- c. Landing gear indicator failure
- d. Trim indicator failure
- e. IFF failure

Introduce:

- a. Tailpipe overheat
- b. One gear unsafe down
- c. NWS caution light illuminated airborne
- d. NWS failure
- e. Anti-skid failure
- f. Wheel brake failure
- g. Hot brakes
- h. Trim malfunctions
- i. Tail hook malfunction
- j. Overhead Precautionary Approach
- k. Straight-in Precautionary Approach
- l. Abeam Precautionary Approach
- m. Touch-and-go no flaps/slats
- n. Full-stop landing (no flaps/slats)
- o. Failure to meet line speed
- p. Inadvertent IMC
- q. Short field arrestment

Practice:

- a. Start emergencies
- b. Takeoff emergencies
- c. Abort situations
- d. Fuel system emergencies
- e. Electrical emergencies
- f. Hydraulic emergencies
- g. Flight control emergencies
- h. Swerve after touchdown
- i. Ejection

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-54	T-45/FC	FAM-04	FAMILIARIZATION FOUR	1.3

Brief:

QOD

Practice:

- a. Checklists
- b. Taxi/marshal/TO (ground OPS)
- c. Radio communications
- d. Normal takeoff
- e. Standard departure procedure
- f. Course rules
- g. Slow flight maneuvers
- h. Break turn stall
- i. Approach turn stall
- j. Accelerated stall
- k. Unusual attitude recoveries
- l. Aileron roll
- m. Straight-in approach
- n. VFR landing pattern
- o. Touch-and-go full flaps/slats
- p. Roll-and-go full flaps/slats
- q. Simulated emergencies (airborne)
- r. Taxi-to-line and shutdown
- s. Postflight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-55	OFT	FAM-05S	FAMILIARIZATION FIVE SIMULATOR	1.5

Brief:

- a. QOD
- b. Lost canopy

Introduce:

- a. Suspend GINA alignment on power-up (align time not counting, qual number not decrementing, zero GPS satellites)
- b. Crosswind takeoff
- c. Minimum radius turns
- d. Vertical recoveries
- e. Squirrel cage
- f. IFR approach to a visual approach
- g. Downwind entry
- h. Crosswind landing
- i. Ground emergency

Practice:

- a. Checklists
- b. Taxi/marshal/TO (ground OPS)
- c. Radio communications
- d. Takeoff malfunction/emergencies
- e. Abort situations
- f. Standard departure procedure
- g. Course rules
- h. Stall series
- i. Aileron roll
- j. Wingover
- k. Barrel roll
- l. VFR landing pattern
- m. Touch-and-go full flaps/slats
- n. Touch-and-go no flaps/slats
- o. Roll-and-go full flaps/slats
- p. Hydraulic malfunction/emergencies
- q. Airstart (low altitude)
- r. Ejection situation (low altitude)
- s. Flight control emergencies
- t. Swerve after touchdown
- u. Field arrested landing, with blown tire



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-56	T-45/FC	FAM-06	FAMILIARIZATION SIX	1.3

Brief:

QOD

Introduce:

- a. Straight-in roll-and-go, full flaps
- b. Crosswind landing to roll-and-go

Practice:

- a. Aircraft exterior preflight
- b. Checklists
- c. Taxi/marshal/TO (ground OPS)
- d. Radio communications
- e. Normal takeoff
- f. Standard departure procedure
- g. Course rules
- h. Stall series
- i. Minimum radius turns
- j. Wingover
- k. Barrel roll
- l. Vertical recoveries
- m. Unusual attitude/recoveries
- n. VFR landing pattern
- o. Touch-and-go, full flaps/slats
- p. Touch-and-go, no flaps/slats
- q. Roll-and-go, full flaps/slats
- r. Simulated emergencies (airborne)
- s. Postflight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-57	T-45/FC	FAM-07	FAMILIARIZATION SEVEN	1.3

Brief:

- a. QOD
- b. Engine surge/compressor stall
- c. PA configuration management

Practice:

- a. Aircraft exterior preflight
- b. Checklists
- c. Taxi/marshal/TO (ground OPS)
- d. Radio communications
- e. Normal takeoff
- f. Standard departure procedure
- g. Course rules
- h. Stall series
- i. Minimum radius turns
- j. Wingover
- k. Barrel roll
- l. Squirrel cage
- m. Unusual attitude recoveries
- n. Vertical recoveries
- o. Straight-in Precautionary Approach
- p. Abeam Precautionary Approach
- q. VFR landing pattern
- r. Touch-and-go, full flaps/slats
- s. Crosswind landing to roll-and-go
- t. Touch-and-go, no flaps/slats
- u. Simulated emergencies (airborne)
- v. Postflight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-58	T-45/FC	FAM-08	FAMILIARIZATION EIGHT	1.3

Brief:

QOD

Practice:

- a. Aircraft exterior preflight
- b. Checklists
- c. Taxi/marshal/TO (ground OPS)
- d. Radio communications
- e. Normal takeoff
- f. Standard departure procedure
- g. Course rules
- h. Stall series
- i. Squirrel cage
- j. Vertical recoveries
- k. Recovery
- l. Overhead Precautionary Approach
- m. VFR landing pattern
- n. Touch-and-go, full flaps/slats
- o. Touch-and-go, no flaps/slats
- p. Simulated emergencies (airborne)
- q. Postflight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-59	T-45/FC	FAM-09	FAMILIARIZATION NINE	1.3

Brief:

QOD

Introduce:

Precautionary approach (full stop)

Practice:

- a. Aircraft exterior preflight
- b. Checklists
- c. Taxi/marshal/TO (ground OPS)
- d. Radio communications
- e. Course rules
- f. Stall series
- g. Squirrel cage
- h. Vertical recoveries
- i. Downwind entry
- j. VFR landing pattern
- k. Touch-and-go, full flaps/slats
- l. Touch-and-go, no flaps/slats
- m. Precautionary approach (two desired)
- n. Simulated emergencies (airborne)
- o. Postflight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-60	T-45/FC	FAM-10	FAMILIARIZATION TEN	1.3

Brief:

QOD

Practice:

- a. Aircraft exterior preflight
- b. Checklists
- c. Taxi/marshal/TO (ground OPS)
- d. Radio communications
- e. Course rules
- f. Stall series
- g. Squirrel cage
- h. Vertical recoveries
- i. Recovery (RTB w/o NAVAIDS, Wx permitting)
- j. VFR landing pattern
- k. Touch-and-go, full flaps/slats
- l. Touch-and-go, no flaps/slats
- m. Simulated emergencies (airborne)
- n. Precautionary approach (two desired)
- o. Postflight

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-61	T-45/FC	FAM-11	FAMILIARIZATION ELEVEN	1.3

Brief:

QOD

Practice:

- a. Aircraft exterior preflight
- b. Checklists
- c. Taxi/marshal/TO (ground OPS)
- d. Radio communications
- e. Course rules
- f. Stall series
- g. Squirrel cage
- h. Vertical recoveries
- i. Recovery (RTB w/o NAVAIDS,  
Wx permitting)
- j. VFR landing pattern
- k. Touch-and-go, full flaps/slats
- l. Touch-and-go, no flaps/slats
- m. Simulated emergencies (airborne)
- n. Precautionary approach (two desired)
- o. Postflight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-63	OFT	OCF-01S	OUT-OF-CONTROL-FLIGHT ONE SIMULATOR	1.5

Brief:

- a. QOD
- b. Runaway trim
- c. Engine flameout
- d. Ejection situations

Introduce:

- a. High AOA/deep stall investigation/rudder induced departure
- b. Low airspeed recovery (70 degrees nose up)
- c. Low airspeed recovery (110 degrees nose up)
- d. Lateral stick adverse yaw departure
- e. Stuck throttle approach

Practice:

- a. Straight-in precautionary approach
- b. VFR landing pattern
- c. Touch-and-go, full flaps/slats
- d. Touch-and-go, no flaps/slats
- e. Full-stop landing
- f. Swerve after touchdown
- g. Field arrested landing with blown tire

NOTE: Two (2) stuck throttle approaches required (high, middle, or low).

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-64	T-45/FC	OCF-02	OUT-OF-CONTROL FLIGHT TWO	0.6

Brief:

- a. QOD
- b. OCF departure/recovery procedures
- c. Spin recovery procedures
- d. Lateral stick adverse yaw departure

Practice:

- a. High AOA/deep stall investigation/rudder induced departure
- b. Low airspeed recovery (70 degrees nose up)
- c. Low airspeed recovery (110 degrees nose up)
- d. Lateral stick adverse yaw departure
- e. Straight-in precautionary approach
- f. VFR landing pattern
- g. Touch-and-go, full flaps/slats
- h. Touch-and-go, no flaps/slats
- i. Crosswind landings (conditions permitting)
- j. Full-stop landing



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-71	T-45/RC HOOD	IR-01X	INSTRUMENT RATING ONE CHECK	1.5

Brief:

- a. QOD
- b. Lost communications
- c. Airborne emergencies

Review:

- a. Single-engine jet log
- b. Complete DD-175
- c. SID
- d. ATC clearance
- e. TACAN navigation
- f. Point-to-point
- g. Route/destination change
- h. TACAN/VOR DME holding
- i. TACAN/VOR DME approach
- j. Missed approach
- k. ILS approach
- l. PAR approach partial panel

NOTES:

- (1) Jacket review required.
- (2) Must have completed Instrument Rating Examination prior to this check flight.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-72	T-45/FC	FAM-12X	FAMILIARIZATION TWELVE CHECK	1.3

Brief:

QOD

Review:

- a. Aircraft exterior preflight
- b. Checklists
- c. Taxi/marshal/TO (ground OPS)
- d. Radio communications
- e. Course rules
- f. Stall series
- g. Minimum radius turns
- h. Wingover
- i. Barrel roll
- j. Squirrel cage
- k. Vertical recoveries
- l. Unusual attitude recoveries
- m. Overhead pattern (break)
- n. VFR landing pattern
- o. Touch-and-go, full flaps/slats
- p. Touch-and-go, no flaps/slats
- q. Precautionary approaches
- r. Simulated emergencies (airborne)
- s. Postflight

NOTES:

- (1) Jacket review required.
- (2) FAM-12X shall be flown with visual reference to the ground.
- (3) EP-03S, OCF-02, open and closed NATOPS examinations must be completed prior to brief.
- (4) Instrument Rating Check (IR-01X) shall be completed prior to brief.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-73	T-45C/ SOLO	FAM-13	FAMILIARIZATION THIRTEEN	1.2

Brief:

- a. QOD
- b. Solo brief
- c. Lost aircraft situations

Practice:

- a. Power off stall
- b. Landing attitude maneuver
- c. Landing attitude stall
- d. Wingover
- e. Barrel roll
- f. Squirrel cage
- g. Overhead pattern (break)
- h. VFR landing pattern
- i. Touch-and-go, full flaps/slats
- j. Abeam PA (Wx permitting)

NOTES:

- (1) Only "Headwork" will be grade by a qualified instructor.
- (2) Intentional spins, accelerated stalls, unusual attitudes, approach turn stalls, and vertical recoveries are prohibited maneuvers for solo IUTs.

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-74	T-45/FC	FAM-14	FAMILIARIZATION FOURTEEN	1.3

Brief:

QOD

Practice:

- a. Stall series
- b. Aileron roll
- c. Wingover
- d. Barrel roll
- e. Squirrel cage
- f. Vertical recoveries
- g. Recovery
- h. VFR landing pattern
- i. Touch-and-go, full flaps/slats
- j. Touch-and-go, no flaps/slats
- k. Precautionary approach
- l. Simulated emergencies (airborne)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-78	T-45/FC	NFAM-01	NIGHT FAMILIARIZATION ONE	0.8

Brief:

- a. QOD
- b. Identify human factor concerns of night flying
- c. Lost communications
- d. Inadvertent IMC
- e. Lost aircraft
- f. Electrical emergencies

Introduce:

Night aircraft preflight

Review:

- a. Brief
- b. Taxi/marshal/TO (ground OPS)
- c. Normal takeoff
- d. Departure/climbout
- e. Visual navigation
- f. DR navigation
- g. Recovery to VFR pattern
- h. Overhead pattern (break)
- i. VFR landing pattern
- j. Touch-and-go, full flaps/slats
- k. Touch-and-go, no flaps/slats
- l. Roll-and-go, full flaps/slats
- m. Full-stop landing
- n. Postflight

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-79	OFT	NA-01S	NATOPS ONE SIMULATOR (CO/FAM/INST)	1.5

Brief:

QOD

Practice:

- a. Inspect aircraft interior
- b. Cockpit preflight checklist
- c. Check/test OBOGS
- d. BIT procedures
- e. Prestart checklist
- f. Aircraft start
- g. Post-start checklist
- h. Ground communications
- i. Takeoff clearance
- j. Engine checks
- k. Normal takeoff
- l. 10,000-ft checklist/15-minute report
- m. TACAN/VOR/DME operations
- n. Slow flight maneuver
- o. Stall series
- p. Descent/penetration checklist
- q. PAR approach
- r. Swerve after touchdown
- s. Landing rollout (field) with blown tire
- t. After landing checklist
- u. After landing communications
- v. Shutdown checklist
- w. Normal egress procedures

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-80	OFT	NA-02S	NATOPS TWO SIMULATOR (FAM)	1.5

Brief:

QOD

Practice:

- a. Start emergencies
- b. Taxi emergencies
- c. Wheel brake failure
- d. Ground communications
- e. Normal takeoff
- f. 10,000-ft checklist/15-minute report
- g. Departure communications
- h. Standard departure
- i. Turn pattern
- j. Level flight accel/decel
- k. Prestall/aerobatic checklist
- l. Stall series
- m. Slow flight maneuver
- n. Nose-high recovery
- o. Nose-low recovery
- p. Minimum radius turns
- q. Aileron roll
- r. Wingover
- s. Barrel roll
- t. Squirrel cage
- u. Area familiarization
- v. Straight-in PA
- w. Abeam PA
- x. Overhead PA
- y. Break to downwind
- z. VFR landing pattern
- aa. Touch-and-go, full flaps/slats
- bb. Roll-and-go, full flaps/slats
- cc. Waveoff
- dd. Touch-and-go, no flaps/slats
- ee. Crosswind landings
- ff. Fuel system emergencies

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-81	T-45/RC HOOD	AN-01	AIRWAYS NAVIGATION ONE	1.5

Brief:

- a. QOD
- b. Lost communications
- c. Airborne emergencies

Practice:

- a. Complete DD-175 with single-engine jet log
- b. Instrument communications
- c. SID
- d. ATC clearance
- e. TACAN/VOR DME holding
- f. Route/destination change
- g. Point-to-point
- h. Penetration/approach (optional)
- i. Missed approach
- j. En route descent
- k. ASR approach
- l. ILS approach
- m. No gyro GCA
- n. Emergency fuel instrument approach



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-82	T-45/RC HOOD	AN-02	AIRWAYS NAVIGATION TWO	1.5

Brief:

- a. QOD
- b. Lost communications
- c. Airborne emergencies

Practice:

- a. Complete DD-175 with single-engine jet log
- b. Instrument communications
- c. SID
- d. ATC clearance
- e. Route/destination change
- f. TACAN/VOR approach partial panel
- g. Missed approach
- h. En route descent
- i. PAR approach partial panel
- j. ILS approach partial panel

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-83	IFT/OFT	NA-03S	NATOPS THREE SIMULATOR (INST - BI)	1.5

Brief:

- a. QOD
- b. GINA failure
- c. Erroneous GINA data
- d. MFD failures

Practice:

- a. Prestart checklist
- b. Aircraft start
- c. Communications for ground emergencies
- d. Abort
- e. ITO
- f. SID
- g. Turn pattern
- h. Level speed change half SRT
- i. S-1 pattern
- j. S-3 pattern
- k. Stall series
- l. Nose-high recovery
- m. Nose-low recovery
- n. Partial panel
- o. TACAN/VOR tracking
- p. TACAN/VOR DME approach
- q. Missed approach
- r. PAR approach
- s. ILS approach
- t. GTS fire
- u. Canopy malfunctions
- v. Unsafe gear conditions
- w. Gear door malfunctions
- x. Engine overtemp
- y. Engine surges and chugs
- z. FUEL low light
- aa. CWP light failure
- bb. Lost communications
- cc. Engine fire on shutdown

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-84	T-45C/RC HOOD	NA-04	NATOPS FOUR (INST - BI)	1.5

Brief:

QOD

Practice:

- a. Observe preflight inspection
- b. Inspect area around aircraft
- c. Inspect canopy and seats
- d. AFT cockpit checks
- e. Verify hood installation
- f. Checklists
- g. ITO
- h. SID
- i. Turn pattern
- j. Partial panel
- k. Level speed change half SRT
- l. S-3 pattern
- m. Stall series
- n. Nose-high recovery
- o. Nose-low recovery
- p. TACAN/VOR tracking
- q. TACAN/VOR DME approach
- r. ILS approach
- s. Missed approach
- t. PAR approach
- u. Postflight
- v. Maintenance control activities

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-85	T-45C/FC	NA-05	NATOPS FIVE (FAM)	1.3

Brief:

QOD

Introduce:

Simulated emergencies (airborne)

Practice:

- a. Preflight
- b. Communications
- c. Takeoff
- d. Standard departure
- e. Stall series
- f. Nose-high recovery
- g. Nose-low recovery
- h. Minimum radius turns
- i. Aileron roll
- j. Wingover
- k. Barrel roll
- l. Squirrel cage
- m. Straight-in PA
- n. Abeam PA
- o. Overhead PA (fuel permitting)
- p. VFR landing pattern
- q. Touch-and-go, full flaps/slats
- r. Roll-and-go, full flaps/slats
- s. Waveoff
- t. Touch-and-go, no flaps/slats
- u. Crosswind landings (conditions permitting)
- v. Postflight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-86	T-45C/RC HOOD	NA-06	NATOPS SIX (INST - RI)	1.5

Brief:

QOD

Introduce:

Perform engine shutdown from aft cockpit

Practice:

- a. ITO
- b. SID
- c. Station passage
- d. Waypoint navigation
- e. Point-to-point
- f. TACAN/VOR DME holding
- g. TACAN/VOR tracking
- h. TACAN/VOR DME approach
- i. ILS approach
- j. Missed approach
- k. Partial panel approach(es)
- l. PAR approach

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-87	OFT	NA-07S	NATOPS SEVEN SIMULATOR (OCF)	1.5

Brief:

- a. QOD
- b. Departure/spin procedures

Introduce:

- a. High AOA/deep stall investigation/rudder induced departure
- b. Low airspeed recovery (70 degrees)
- c. Low airspeed recovery (110 degrees)
- d. Lateral stick adverse yaw departure
- e. Engine stalls
- f. Engine vibration
- g. Engine seizure
- h. Engine flameout
- i. Engine fire at altitude with secondary indications
- j. FIRE light, no secondary indications
- k. FIRE light, light out with power reduced
- l. Engine overspeed
- m. ECA failure
- n. ECA failure, full trim
- o. ECA failure, no trim condition
- p. Oil pressure failure
- q. Ground ejection situations
- r. Field arrested landing with blown tire

Practice:

Swerve after touchdown

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-88	T-45C/FC	NA-08	NATOPS EIGHT (OCF)	1.0

Brief:

- a. QOD
- b. Departure/spin procedures

Practice:

- a. Takeoff
- b. High AOA/deep stall investigation/rudder induced departure
- c. Low airspeed recovery (70 degrees)
- d. Low airspeed recovery (110 degrees)
- e. Lateral stick adverse yaw departure
- f. Recovery to pattern
- g. Precautionary approach
- h. Field landing activities
- i. VFR landing pattern
- j. Crosswind landings (conditions permitting)

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-95	OFT	NA-09S	NATOPS NINE SIMULATOR (2 PLANE FORMATION)	1.5

Brief:

- a. QOD
- b. ECS emergencies
- c. Formation abort

Introduce:

- a. Interval takeoff position
- b. Interval takeoff
- c. Section takeoff (wing)
- d. Section climbout
- e. Running rendezvous
- f. Crossunder
- g. Parade turns
- h. Breakup and rendezvous
- i. IFR parade
- j. Cruise formation
- k. Column
- l. Section approach (wing)
- m. Section missed approach
- n. Communications for emergency situations
- o. Double inverter failure
- p. Total electrical failure
- q. Essential bus failure
- r. Uncommanded RAT extension
- s. Total hydraulic failure
- t. Slow loss pressure (HYD 1)
- u. Slow loss pressure (HYD 2)
- v. Hydraulic failure (RAT operating)



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-96	T-45C/FC	NA-10	NATOPS TEN (2 PLANE FORMATION)	1.5

Brief:

QOD

Practice:

- a. Marshal/hold short
- b. Section takeoff (if done)
- c. Running rendezvous
- d. Visual communications
- e. IFR parade
- f. Crossunder
- g. Breakup and rendezvous (250 KIAS; 300 KIAS)
- h. Lead change
- i. Formation recovery
- j. Section approach
- k. Section missed approach
- l. Section break
- m. Roll-and-go, full flaps/slats
- n. Crosswind landings (conditions permitting)

NOTE: Should be flown as a wing.

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-97	T-45C/FC	NA-11	NATOPS ELEVEN (FAM/INST)	1.5

Brief:

QOD

Demonstrate:

Minimum rollout landing (conditions permitting)

Introduce:

Simulated low oil GCA (conditions permitting)

Practice:

- a. ITO
- b. SID
- c. Turn pattern
- d. S-3 pattern
- e. Stall series
- f. TACAN/VOR tracking
- g. TACAN/VOR DME approach
- h. PAR approach
- i. Touch-and-go, full flaps/slats
- j. Touch-and-go, no flaps/slats
- k. Roll-and-go, full flaps/slats
- l. Full-stop, full flaps/slats

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-98	T-45C/FC	NA-12	NATOPS TWELVE (NFAM)	1.5

Brief:

QOD

Introduce:

- a. Takeoff
- b. Area familiarization
- c. ILS approach
- d. PAR approach
- e. Missed approach
- f. Break
- g. Touch-and-go, no flaps/slats
- h. Touch-and-go, full flaps/slats
- i. Crosswind landings (conditions permitting)

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-99	OFT	NA-13SX	NATOPS THIRTEEN SIMULATOR CHECK	1.5

Brief:

QOD

Review:

- a. ITO
- b. Takeoff emergencies
- c. SID
- d. Departure communications
- e. S-1 pattern
- f. S-3 pattern
- g. TACAN/VOR tracking
- h. Point-to-point
- i. Partial panel approach(es)
- j. TACAN/VOR DME approach
- k. PAR approach
- l. Missed approach
- m. ILS approach
- n. Fuel system emergencies
- o. Electrical emergencies
- p. ECS emergencies
- q. Hydraulic emergencies
- r. Flight control emergencies
- s. Swerve after touchdown
- t. Field Arrested landing (field) with blown tire

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
02-100	T-45C/FC	NA-14X	NATOPS FOURTEEN CHECK	1.5

Brief:

QOD

Review:

- a. Preflight
- b. Communications
- c. Normal takeoff
- d. Standard departure
- e. Stall series
- f. Minimum radius turns
- g. Aileron roll
- h. Wingover
- i. Barrel roll
- j. Squirrel cage
- k. Low airspeed recovery (70 degree)
- l. Unusual attitudes
- m. Simulated emergencies (airborne)
- n. Precautionary approach(es)
- o. Overhead pattern/break
- p. VFR landing pattern
- q. Touch-and-go, no flaps/slats
- r. Roll-and-go, no flaps/slats
- s. Touch-and-go, full flaps/slats
- t. Crosswind landing (conditions permitting)
- u. Full-stop, full flaps/slats
- v. Postflight

NOTE: Open and closed book NATOPS examinations shall be complete prior to NA-14X.

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MODULE 03

FIELD CARRIER LANDING PRACTICE

OBJECTIVE: Field Carrier Landing Practice (FCLP) is provided to ensure that the Transition IUT masters landing techniques required to instruct SNAs in tactical jet aircraft with emphasis on pattern, interval, power control, attitude control, airspeed control, glideslope control, and corrections.

Includes: Aviation Student Indoctrination (ASI-06); Carrier Qualification Flight Procedures (CQFP-01 through CQFP-04); FCLP simulator and flights (FCLP-01S through FCLP-19X); Emergency Procedures simulator (EP-04S); and Carrier Qualification flight (CQ-01X).

NOTE 1: A maximum of three (3) FCLP flights may be scheduled in one day.

NOTE 2: All FCLP night flights shall take off no earlier than 30 minutes after official sunset.

NOTE 3: Night solo flights require an operating radar altimeter.

NOTE 4: Prior to completion of the Jet Transition phase, the IUT must fly a total of 3 night FCLPs under LSO control.

NOTE 5: FCLP'S may be flown any time after FAM-14, but prior to MOD 04 as the CQ schedule permits.

NOTE 6: CQ-01X is flown by selected IUTs at the discretion of the TRAWING commander/Commanding officer. This flight is not considered part of the basic instructor qualification syllabus or advanced qualification.

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-01	LECT	ASI-06	TIS-III (ATF, UDI, REPORTS)	1.5
03-02	MIL	CQFP-01	FIELD CARRIER LANDING PRACTICE (FCLP) PROCEDURES	1.0
03-03	MIL	CQFP-02	NIGHT FCLP PROCEDURES	0.5
03-04	CAI	CQFP-03X	CARRIER QUALIFICATION STAGE EXAMINATION	1.0
03-05	MIL	CQFP-04	CQ SHIPBOARD PROCEDURES	1.0
03-06	OFT	FCLP-01S	FIELD CARRIER LANDING PRACTICE ONE SIMULATOR	1.5
03-07	T-45/FC	FCLP-02	FIELD CARRIER LANDING PRACTICE TWO	0.6
03-08	T-45/FC	FCLP-03X	FIELD CARRIER LANDING PRACTICE THREE CHECK	0.6
03-09	T-45/ SOLO	FCLP-04	FIELD CARRIER LANDING PRACTICE FOUR	0.6
03-10	T-45/ SOLO	FCLP-05	FIELD CARRIER LANDING PRACTICE FIVE	0.6
03-11	T-45/ SOLO	FCLP-06	FIELD CARRIER LANDING PRACTICE SIX	0.6
03-12	T-45/ SOLO	FCLP-07	FIELD CARRIER LANDING PRACTICE SEVEN	0.6
03-13	T-45/ SOLO	FCLP-08	FIELD CARRIER LANDING PRACTICE EIGHT	0.6
03-14	T-45/ SOLO	FCLP-09	FIELD CARRIER LANDING PRACTICE NINE	0.6
03-15	T-45/ SOLO	FCLP-10	FIELD CARRIER LANDING PRACTICE TEN	0.6
03-16	OFT	EP-04S	EMERGENCY PROCEDURES FOUR SIMULATOR	1.5
03-17	T-45/ SOLO	FCLP-11	FIELD CARRIER LANDING PRACTICE ELEVEN	0.6



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-18	T-45/ SOLO	FCLP-12	FIELD CARRIER LANDING PRACTICE TWELVE	0.6
03-19	T-45/ SOLO	FCLP-13	FIELD CARRIER LANDING PRACTICE THIRTEEN	0.6
03-20	T-45/ SOLO	FCLP-14	FIELD CARRIER LANDING PRACTICE FOURTEEN	0.6
03-21	T-45/ SOLO	FCLP-15	FIELD CARRIER LANDING PRACTICE FIFTEEN	0.6
03-22	T-45/ SOLO	FCLP-16	FIELD CARRIER LANDING PRACTICE SIXTEEN	0.6
03-23	T-45/ SOLO	FCLP-17	FIELD CARRIER LANDING PRACTICE SEVENTEEN	0.6
03-24	T-45/ SOLO	FCLP-18	FIELD CARRIER LANDING PRACTICE EIGHTEEN	0.6
03-25	MIL	CQFP-05	SHIP'S BRIEF	3.0
03-26	CAI	CQFP-06X	SHIP'S BRIEF EXAMINATION	1.0
03-27	T-45/ SOLO	FCLP-19X	FIELD CARRIER LANDING PRACTICE NINETEEN CHECK	0.6
03-28	T-45/ SOLO	CQ-01X	CARRIER QUALIFICATION ONF CHECK (SHIP)	4.2

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-06	OFT	FCLP-01S	FIELD CARRIER LANDING PRACTICE ONE SIMULATOR	1.5

Brief:

QOD

Introduce:

- a. Communications
- b. Course rules/pattern entry procedure
- c. Pattern
- d. Start position
- e. AOA control
- f. Power control
- g. Lineup control
- h. Error detection/correction
- i. Bolter/touch-and-go technique
- j. Response to waveoff and technique
- k. BINGO profile

Practice:

- a. Swerve after touchdown
- b. Field arrested landing with blown tire

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-07	T-45/FC	FCLP-02	FIELD CARRIER LANDING PRACTICE TWO	0.6

Brief:

- a. QOD
- b. Field carrier landing practice
- c. CAT grip takeoff
- d. Delta pattern
- e. Preflight
- f. Ground procedures
- g. Pattern entry
- h. Communications

Demonstrate:

- a. Lineup
- b. Waveoff

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

NOTE: "Headwork" and "Procedures" are the only graded items on this flight.

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-08	T-45/FC	FCLP-03X	FIELD CARRIER LANDING PRACTICE THREE CHECK	0.6

Brief:

- a. QOD
- b. Pattern procedures
- c. Arrestment procedures

Review:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

NOTE: "Headwork" and "Procedures" are the only graded items on this flight.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-09	T-45/ SOLO	FCLP-04	FIELD CARRIER LANDING PRACTICE FOUR	0.6

Brief:

- a. QOD
- b. Scan technique

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

03-10	T-45/ SOLO	FCLP-05	FIELD CARRIER LANDING PRACTICE FIVE	0.6
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Brief:

- a. QOD
- b. Glideslope corrections
- c. Trend analysis

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique
- m. Progress

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-11	T-45/ SOLO	FCLP-06	FIELD CARRIER LANDING PRACTICE SIX	0.6

Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

03-12	T-45/ SOLO	FCLP-07	FIELD CARRIER LANDING PRACTICE SEVEN	0.6
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Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-13	T-45/ SOLO	FCLP-08	FIELD CARRIER LANDING PRACTICE EIGHT	0.6

Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

03-14	T-45/ SOLO	FCLP-09	FIELD CARRIER LANDING PRACTICE NINE	0.6
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Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-15	T-45/ SOLO	FCLP-10	FIELD CARRIER LANDING PRACTICE TEN	0.6

Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-16	OFT	EP-04S	EMERGENCY PROCEDURES FOUR SIMULATOR	1.5

Brief:

- a. QOD
- b. Carrier related emergency procedures

Introduce:

- a. Ship arrival procedures Case I
- b. Pattern
- c. Start position
- d. Bolter/touch-and-go techniques
- e. Response to waveoff and technique
- f. Carrier arrestment
- g. Post-arrestment
- h. Catapult hookup
- i. Catapult launch procedures
- j. Suspend procedures
- k. Pattern entry from catapult launch
- l. Communications
- m. Brake failure on deck
- n. NWS failure on deck
- o. Communications failure on deck
- p. Launch bar malfunction
- q. Catapult malfunctions-soft/accel light
- r. Communications failure in pattern
- s. CQ-related emergencies
- t. BINGO profile

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-17	T-45/ SOLO	FCLP-11	FIELD CARRIER LANDING PRACTICE ELEVEN	0.6

Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

03-18	T-45/ SOLO	FCLP-12	FIELD CARRIER LANDING PRACTICE TWELVE	0.6
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Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-19	T-45/ SOLO	FCLP-13	FIELD CARRIER LANDING PRACTICE THIRTEEN	0.6

Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

03-20	T-45/ SOLO	FCLP-14	FIELD CARRIER LANDING PRACTICE FOURTEEN	0.6
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Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-21	T-45/ SOLO	FCLP-15	FIELD CARRIER LANDING PRACTICE FIFTEEN	0.6

Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

03-22	T-45/ SOLO	FCLP-16	FIELD CARRIER LANDING PRACTICE SIXTEEN	0.6
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Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-23	T-45/ SOLO	FCLP-17	FIELD CARRIER LANDING PRACTICE SEVENTEEN	0.6

Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

03-24	T-45/ SOLO	FCLP-18	FIELD CARRIER LANDING PRACTICE EIGHTEEN	0.6
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Brief:

QOD

Practice:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-27	T-45/ SOLO	FCLP-19X	FIELD CARRIER LANDING PRACTICE NINETEEN CHECK	0.6

Brief:

QOD

Review:

- a. Communications
- b. Course rules/pattern entry procedures
- c. Pattern
- d. Start position
- e. AOA control
- f. Glideslope control
- g. Power control
- h. Lineup control
- i. Error detection/correction
- j. Response to LSO calls
- k. Bolter/touch-and-go technique
- l. Response to waveoff and technique

NOTES:

- (1) Jacket review required.
- (2) "Headwork" and "Procedures" are the only graded items.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
03-28	T-45C/ SOLO	CQ-01X	CARRIER QUALIFICATION ONE CHECK (SHIP)	4.2

Brief:

- a. QOD
- b. Carrier qualification procedures

Review:

- a. Formation
- b. Pattern
- c. Start position
- d. AOA control
- e. Glideslope control
- f. Power control
- g. Lineup control
- h. Error detection/correction
- i. Response to LSO calls
- j. Bolter/touch-and-go technique
- k. Response to waveoff and technique
- l. Carrier flight deck procedures
- m. Communications
- n. Catapult launch procedures

NOTES:

- (1) Jacket review required.
- (2) CQ-01X is to be flown by selected IUTs at the discretion of the TRAWING Commander/Commanding Officer. This flight is not considered part of the basic Instructor Qualification syllabus or an advanced qualification.

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MODULE 04

BASIC INSTRUCTOR QUALIFICATION

OBJECTIVE: Prepare the IUT for instructing SNAs in Familiarization, Instrument, and Night Familiarization stages. This module will provide the IUT with instructional phase goals and training techniques required to perform as a basic qualified flight instructor. Additionally, the Night Familiarization stage will emphasize the instrument aspects of night flying and night landing technique.

Includes: Familiarization flights (FAM-15 through FAM-17X); Basic Instruments simulator and flights (BI-08S through BI-10X); Radio Instruments simulator and flights (RI-08S through RI-10X); Airways Navigation flights (AN-03 and AN-04X); and Night Familiarization flights (NFAM-02 through NFAM-04X).

NOTE 1: Familiarization, Night Familiarization, Basic Instruments, Radio Instruments, Airways Navigation, and Instrument Rating flight procedures, including examinations, were completed in Module 02.

NOTE 2: IUT stages can be completed in any order.

NOTE 3: All night flights shall takeoff no earlier than 30 minutes after official sunset.

NOTE 4: Night solo flights require an operating radar altimeter.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-01	T-45/RC	FAM-15	FAMILIARIZATION FIFTEEN	1.3
04-02	T-45/RC	FAM-16	FAMILIARIZATION SIXTEEN	1.3
04-03	T-45/RC	FAM-17X	FAMILIARIZATION SEVENTEEN CHECK	1.3
04-04	IFT/OFT	BI-08S	BASIC INSTRUMENTS EIGHT SIMULATOR	1.5
04-05	T-45/FC	BI-09	BASIC INSTRUMENTS NINE	1.5
04-06	T-54/FC	BI-10X	BASIC INSTRUMENT TEN CHECK	1.5
04-07	IFT/OFT	RI-08S	RADIO INSTRUMENTS EIGHT SIMULATOR	1.5

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-08	T-45/FC	RI-09	RADIO INSTRUMENTS NINE	1.5
04-09	T-45/FC	RI-10X	RADIO INSTRUMENTS TEN CHECK	1.5
04-10	T-45/FC	AN-03	AIRWAYS NAVIGATION THREE	1.5
04-11	T-45/FC	AN-04X	AIRWAYS NAVIGATION FOUR CHECK	1.5
04-12	T-45/FC	NFAM-02	NIGHT FAMILIARIZATION TWO	0.8
04-13	T-45/RC	NFAM-03	NIGHT FAMILIARIZATION THREE	0.8
04-14	T-45/RC	NFAM-04X	NIGHT FAMILIARIZATION FOUR CHECK	1.4

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-01	T-45/RC	FAM-15	FAMILIARIZATION FIFTEEN	1.3

Brief:

- a. QOD
- b. Field arrested landing

Practice:

- a. Ground communications
- b. Checklists
- c. Stall series
- d. Accelerated stall and recovery
- e. Minimum radius turns
- f. Unusual attitude recoveries
- g. Vertical recoveries
- h. Aileron roll
- i. Wingover
- j. Barrel roll
- k. Squirrel cage
- l. Overhead pattern (break)
- m. Touch-and-go, full flaps/slats
- n. Touch-and-go, no flaps/slats
- o. Roll and go, full flaps/slats
- p. Simulated emergency (airborne)
- q. Straight-in Precautionary Approach
- r. Abeam Precautionary Approach
- s. Overhead PA (fuel permitting)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-02	T-45/RC	FAM-16	FAMILIARIZATION SIXTEEN	1.3

Brief:

QOD

Perform:

Perform the following maneuvers and procedures stressing verbal presentation and instructional techniques. The IUT will brief and demonstrate competency to perform all required maneuvers in a satisfactory manner from the rear cockpit prior to FAM-17X.

Introduce:

- a. Review student records
- b. Event requirements
- c. Brief
- d. Presentation techniques
- e. Guidance/feedback
- f. Debrief
- g. Grades assignment
- h. Prepare for instruction
- i. Performance evaluation

Practice:

- a. Ground communications
- b. Normal takeoff
- c. After takeoff activities
- d. Stall series
- e. Accelerated stall and recovery
- f. Minimum radius turns
- g. Unusual attitude recoveries
- h. Vertical recoveries
- i. Aileron roll
- j. Wingover
- k. Barrel roll
- l. Squirrel cage
- m. Recovery to VFR landing pattern
- n. Overhead pattern (break)
- o. Touch-and-go, full flaps/slats
- p. Touch-and-go, no flaps/slats
- q. Abeam Precautionary Approach
- r. Overhead Precautionary Approach
- s. Roll and go, full flaps/slats
- t. Crosswind landings (condition permitting)
- u. Simulated emergency (airborne)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-03	T-45/RC	FAM-17X	FAMILIARIZATION SEVENTEEN CHECK	1.3

Brief:

QOD

Perform:

Flight briefed by IUT. Major emphasis will be on verbal skills and IUT's ability to fly the aircraft proficiently. This flight will most approximate a typical student training mission. IP should demonstrate student deficiency areas and discuss student performance evaluation/grading standards.

Review:

- a. Prepare for instruction
- b. Brief
- c. Ground communications
- d. Normal takeoff
- e. After takeoff activities
- f. Stall series
- g. Accelerated stall and recovery
- h. Minimum radius turns
- i. Unusual attitude recoveries
- j. Vertical recoveries
- k. Aileron roll
- l. Wingover
- m. Barrel roll
- n. Squirrel cage
- o. Recovery to VFR landing pattern
- p. Overhead pattern (break)
- q. Touch-and-go, full flaps/slats
- r. Touch-and-go, no flaps/slats
- s. Straight-in Precautionary Approach
- t. Overhead Precautionary Approach
- u. Roll and go, full flaps/slats
- v. Crosswind landings (conditions permitting)
- w. Simulated emergency (airborne)
- x. Flight instruction
- y. Performance evaluation
- z. Guidance/feedback
- aa. Debrief

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-04	IFT/OFT	BI-08S	BASIC INSTRUMENTS EIGHT SIMULATOR	1.5

Brief:

QOD

Practice:

- a. ITO
- b. SID
- c. TACAN/VOR tracking
- d. Turn pattern
- e. Level speed changes
- f. Half standard rate turn
- g. Level speed change half SRT
- h. Standard rate turn
- i. Stall series
- j. Slow flight
- k. S-1 pattern
- l. S-3 pattern
- m. Instrument transitions
- n. Partial panel
- o. Partial panel timed turns
- p. VOR penetration/approach
- q. Missed approach
- r. PAR approach
- s. ASR approach
- t. Partial panel approach(es)

Note: IUT will demonstrate maneuvers with verbal explanations as if demonstrating maneuvers to a SNA.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-05	T-45/FC	BI-09	BASIC INSTRUMENTS NINE	1.5

Brief:

QOD

Perform:

Flight briefed by IUT. Major emphasis will be on verbal skills and knowledge of the FTI. IUT should be able to perform all maneuvers and discuss them in-flight. This flight will most approximate a typical student training mission. IP should demonstrate student deficiency areas and discuss grading standards.

Demonstrate:

Stan IP will take controls and familiarize IUT with all instrument failure indications activated by the MFD Training Display.

Practice:

- a. Prepare for instruction
- b. Brief
- c. Instrument communications
- d. ITO
- e. SID
- f. TACAN/VOR tracking
- g. Turn pattern
- h. Half standard rate turn
- i. Standard rate turn
- j. Partial panel timed turns
- k. Stall series
- l. S-3 pattern
- m. Nose-high recovery
- n. Nose-low recovery
- o. Partial panel
- p. Unusual attitude partial panel
- q. TACAN/VOR DME approach
- r. ASR approach
- s. Missed approach
- t. PAR approach partial panel
- u. Missed approach partial panel
- v. Flight instruction
- w. Performance evaluation
- x. Guidance/feedback
- y. Debrief
- z. Grades assignment

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-06	T-45/FC	BI-10X	BASIC INSTRUMENTS TEN CHECK	1.5

Brief:

QOD

Perform:

Flight briefed by IUT. Major emphasis is on verbal skills and knowledge of the FTI. IUT should be able to perform all maneuvers and discuss them in-flight. This flight will most approximate a typical student training mission. IP should demonstrate student deficiency areas and discuss grading standards.

Review:

- a. Prepare for instruction
- b. Brief
- c. Instrument communications
- d. ITO
- e. SID
- f. TACAN/VOR tracking
- g. Turn pattern
- h. Half standard rate turn
- i. Standard rate turn
- j. Partial panel timed turns
- k. Stall series
- l. S-3 pattern
- m. Nose-high recovery
- n. Nose-low recovery
- o. Partial panel
- p. Unusual attitude partial panel
- q. TACAN/VOR DME approach
- r. ASR approach
- s. Missed approach
- t. PAR approach partial panel
- u. Missed approach partial panel
- v. Flight instruction
- w. Performance evaluation
- x. Guidance/feedback
- y. Debrief
- z. Grades assignment



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-07	IFT/OFT	RI-08S	RADIO INSTRUMENTS EIGHT SIMULATOR	1.5

Brief:

QOD

Practice:

- a. Communication
- b. ITO
- c. SID
- d. Visual takeoff low ceiling
- e. Point-to-point
- f. Ground speed checks
- g. Radial intercepts
- h. Electrical emergencies
- i. CNI failure
- j. TACAN/VOR tracking
- k. ILS approach
- l. ASR approach partial panel
- m. ILS glideslope failure
- n. TACAN/VOR DME approach
- o. Missed approach
- p. Emergency fuel approach
- q. No gyro GCA
- r. Low oil GCA
- s. Instrument to visual scan
- t. Circling approach to land

NOTE: IUT will demonstrate maneuvers with verbal explanation as if demonstrating to a SNA.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-08	T-45/FC	RI-09	RADIO INSTRUMENTS NINE	1.5

Brief:

QOD

Perform:

Flight briefed by IUT. Major emphasis will be on verbal skills and IUT's ability to fly the aircraft proficiently. This flight will most approximate a typical student training mission, i.e., demonstrate deficiency areas by IP. Discussion should emphasize student performance evaluation/grading standards.

Practice:

- a. Prepare for instruction
- b. Brief
- c. Communications
- d. SID
- e. Airborne emergencies
- f. Point-to-point
- g. Ground speed checks
- h. TACAN/VOR DME holding
- i. Radial intercepts
- j. TACAN/VOR approach partial panel
- k. ILS approach partial panel
- l. ASR approach
- m. Missed approach
- n. Introduce/demonstrate techniques
- o. Presentation techniques
- p. Performance evaluation
- q. Guidance/feedback
- r. Debrief

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-09	T-45/FC	RI-10X	RADIO INSTRUMENTS TEN CHECK	1.5

Brief:

QOD

Perform:

Flight briefed by IUT. This flight will most approximate a typical student training mission. IP should demonstrate student deficiency areas and discuss grading standards.

Review:

- a. Prepare for instruction
- b. Brief
- c. Communications
- d. SID
- e. TACAN/VOR tracking
- f. Point-to-point
- g. TACAN/VOR DME holding
- h. Radial intercepts
- i. TACAN/VOR DME approach
- j. PAR approach partial panel
- k. ILS approach
- l. Missed approach
- m. Flight instruction
- n. Performance evaluation
- o. Guidance/feedback
- p. Debrief

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-10	T-45/FC	AN-03	AIRWAYS NAVIGATION THREE	1.5

Brief:

- a. QOD
- b. In-flight emergencies

Practice:

- a. Prepare for instruction
- b. Brief
- c. Single-engine jet log
- d. Complete DD-175
- e. SID
- f. Point-to-point
- g. Route/destination change (if done)
- h. En route delay (if done)
- i. En route descent (if done)
- j. TACAN/VOR DME approach
- k. Missed approach
- l. PAR approach
- m. Flight instruction
- n. Introduce/demonstrate techniques
- o. Performance evaluation
- p. Guidance/feedback
- q. Debrief

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-11	T-45/FC	AN-04X	AIRWAYS NAVIGATION FOUR CHECK	1.5

Brief:

QOD

Perform:

Flight briefed by IUT. Major emphasis will be on verbal skills and IUT's ability to fly the aircraft proficiently. This flight will most approximate a typical student training mission. IP should demonstrate student deficiency areas and discuss grading standards.

Review:

- a. Prepare for instruction
- b. Brief
- c. Complete DD-175
- d. Single-engine jet log
- e. SID
- f. Route/destination change (if done)
- g. En route delay (if done)
- h. En route descent (if done)
- i. TACAN/VOR DME approach
- j. Missed approach
- k. PAR approach
- l. ILS approach partial panel
- m. In-flight emergencies
- n. Flight instruction
- o. Performance evaluation
- p. Guidance/feedback
- q. Debrief

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-12	T-45/FC	NFAM-02	NIGHT FAMILIARIZATION TWO	0.8

Brief:

- a. QOD
- b. Identify human factor concerns of night flying
- c. Lost communications
- d. Inadvertent IMC
- e. Lost aircraft
- f. Electrical malfunction/failure

Practice:

- a. Brief
- b. Night aircraft preflight
- c. Taxi/marshal/TO (Ground OPS)
- d. Normal takeoff
- e. Departure/climbout
- f. Visual navigation
- g. DR navigation
- h. Recovery to VFR pattern
- i. Overhead pattern (break)
- j. VFR landing pattern
- k. Touch-and-go, full flaps/slats
- l. Touch-and-go, no flaps/slats
- m. Roll-and-go, full flaps/slats
- n. Full-stop landing
- o. Postflight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-13	T-45/RC	NFAM-03	NIGHT FAMILIARIZATION THREE	0.8

Brief:

QOD

Practice:

- a. Brief
- b. Night aircraft preflight
- c. Taxi/marshal/TO (Ground OPS)
- d. Normal takeoff
- e. Departure/climbout
- f. Visual navigation
- g. DR navigation
- h. Recovery to VFR pattern
- i. Overhead pattern (break)
- j. VFR landing pattern
- k. Touch-and-go, full flaps/slats
- l. Touch-and-go, no flaps/slats
- m. Roll and go, full flaps/slats
- n. Full-stop landing
- o. Postflight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
04-14	T-45/RC	NFAM-04X	NIGHT FAMILIARIZATION FOUR CHECK	1.4

Perform:

Flight briefed by IUT. Major emphasis will be on verbal skills and IUT's ability to fly the aircraft proficiently. This flight will most approximate a typical student training mission. IP should demonstrate student deficiency areas and discuss grading standards.

Brief:

- a. QOD
- b. Identify human factor concerns of night flying
- c. Lost communications
- d. Inadvertent IMC
- e. Lost aircraft
- f. Electrical malfunction/failure

Review:

- a. Brief
- b. Night aircraft preflight
- c. Taxi/marshal/TO (Ground OPS)
- d. Normal takeoff
- e. Departure/climbout
- f. Visual navigation
- g. DR navigation
- h. Recovery to VFR pattern
- i. Overhead pattern (break)
- j. VFR landing pattern
- k. Touch-and-go, full flaps/slats
- l. Touch-and-go, no flaps/slats
- m. Roll-and-go, full flaps/slats
- n. Full-stop landing
- o. Postflight



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MODULE 05

FORMATION AND NIGHT FORMATION

OBJECTIVE: This module is the first of 4 modules comprising the advanced instructor qualifications. IUTs will be selected to complete these individual stages by squadron commanding officers. This module will provide the IUT with instructional phase goals and training techniques required to perform as a flight instructor. Formation stage will develop basic section and division formation flying skills and provide additional landing practice.

Includes: Formation Flight Procedures (FFP-07 and FFP-08X); Formation simulators and flights (FORM-01S through FORM-21X); Night Formation Flight Procedures (NFFP-01); and Night Formation flights (NFORM-01 through NFORM-06).

NOTE 1: FFP-01 through FFP-06X were completed in MOD-02. The IUT may need a refresher of the lessons prior to starting formation.

NOTE 2: IUT must have 1 takeoff running rendezvous and 1 division break at the field prior to FORM-21X.

NOTE 3: Division FORM may be completed as three-plane flights, but either FORM-18 or FORM-19 must be flown as a four-plane flight.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-01	MIL	FFP-07	DIVISION PARADE FORMATION	1.5
05-02	CAI	FFP-08X	FORMATION STAGE EXAMINATION	1.0
05-03	OFT	FORM-01S	FORMATION ONE SIMULATOR	1.5
05-04	T-45/FC	FORM-02 2 A/C	FORMATION TWO	1.5
05-05	T-45/FC	FORM-03 2 A/C	FORMATION THREE	1.5
05-06	T-45/FC	FORM-04 2 A/C	FORMATION FOUR	1.5
05-07	T-45/FC	FORM-05 2 A/C	FORMATION FIVE	1.5

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-08	T-45/FC	FORM-06 2 A/C	FORMATION SIX	1.5
05-09	T-45/FC	FORM-07 2 A/C	FORMATION SEVEN	1.5
05-10	T-45/FC	FORM-08X 2 A/C	FORMATION EIGHT CHECK	1.5
05-11	T-45/ SOLO	FORM-09 2 A/C	FORMATION NINE	1.5
05-12	T-45/FC	FORM-10 2 A/C	FORMATION TEN	1.5
05-13	T-45/FC	FORM-11 2 A/C	FORMATION ELEVEN	1.5
05-14	T-45/FC	FORM-12 2 A/C	FORMATION TWELVE	1.5
05-15	T-45/FC	FORM-13 2 A/C	FORMATION THIRTEEN	1.5
05-16	T-45/FC	FORM-14X 2 A/C	FORMATION FOURTEEN CHECK	1.5
05-17	T-45/RC	FORM-15 2 A/C	FORMATION FIFTEEN	1.5
05-18	T-45/RC	FORM-16X 2 A/C	FORMATION SIXTEEN CHECK	1.5
05-19	T-45/FC	FORM-17 4 A/C	FORMATION SEVENTEEN	1.5
05-20	T-45/FC	FORM-18 4 A/C	FORMATION EIGHTEEN	1.5
05-21	T-45/RC	FORM-19 4 A/C	FORMATION NINETEEN	1.5
05-22	T-45/RC	FORM-20 4 A/C	FORMATION TWENTY	1.5
05-23	T-45/RC	FORM-21X 4 A/C	FORMATION TWENTY-ONE CHECK	1.5

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-24	MIL	NFFP-01	NIGHT FORMATION FLIGHT PROCEDURES	1.2
05-25	CAI	NFFP-02X	NIGHT FORMATION STAGE EXAMINATION	1.0
05-26	T-45/FC	NFORM-01 2 A/C	NIGHT FORMATION ONE	1.5
05-27	T-45/FC	NFORM-02 2 A/C	NIGHT FORMATION TWO	1.5
05-28	T-45/FC	NFORM-03X 2 A/C	NIGHT FORMATION THREE CHECK	1.5
05-29	T-45/RC	NFORM-04 2 A/C	NIGHT FORMATION FOUR	1.5
05-30	T-45/FC	NFORM-05 2 A/C	NIGHT FORMATION FIVE CHECK	1.5
05-31	T-45/FC	NFORM-06X 2 A/C	NIGHT FORMATION SIX	1.5

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-03	OFT	FORM-01S	FORMATION ONE SIMULATOR	1.5

Brief:

- a. QOD
- b. Underrun

Introduce:

- a. Formation ground OPS
- b. Formation communications
- c. Marshal/holdshort
- d. Interval takeoff
- e. Running rendezvous
- f. TACAN rendezvous
- g. Parade position
- h. Parade turns
- i. Crossunder
- j. Breakup and rendezvous
- k. Section break

Practice:

- a. Touch-and-go landings
- b. Postlanding emergencies

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-04	T-45/FC	FORM-02 2 A/C	FORMATION TWO	1.5

Brief:

- a. QOD
- b. Underrun
- c. Lead change
- d. Postlanding emergencies

Introduce:

- a. Formation ground OPS
- b. Formation communications
- c. Marshal/holdshort
- d. Interval takeoff
- e. Running rendezvous
- f. Parade position
- g. Parade turns
- h. Crossunder
- i. Breakup and rendezvous
- j. TACAN rendezvous
- k. Section break

Practice:

Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-05	T-45/FC	FORM-03 2 A/C	FORMATION THREE	1.5

Brief:

- a. QOD
- b. Midair collision
- c. SAR situations
- d. Form lost sight procedure

Introduce:

- a. Underrun
- b. Lead change

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Interval takeoff
- d. Running rendezvous/TACAN rendezvous
- e. Parade position
- f. Parade turns
- g. Crossunder
- h. Breakup and rendezvous (4 x 250, 2 x 300 desired)
- i. Section break (Wx permitting)
- j. Touch-and-go landings

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-06	T-45/FC	FORM-04 2 A/C	FORMATION FOUR	1.5

Brief:

QOD

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Interval takeoff
- d. Running rendezvous/TACAN rendezvous
- e. Parade position
- f. Parade turns
- g. Crossunder
- h. Breakup and rendezvous (4 x 250, 2 x 300 desired)
- i. Underrun
- j. Lead change
- k. Section break (Wx permitting)
- l. Touch-and-go landings



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-07	T-45/FC	FORM-05 2 A/C	FORMATION FIVE	1.5

Brief:

QOD

Introduce:

- a. IFR parade
- b. Section approach
- c. Section missed approach

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Interval takeoff
- d. Running rendezvous
- e. Parade turns
- f. Crossunder
- g. Breakup and rendezvous (4 x 250, 2 x 300 desired)
- h. Underrun
- i. Lead change
- j. Section break
- k. Touch-and-go landings
- l. Precautionary approach

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-08	T-45/FC	FORM-06 2 A/C	FORMATION SIX	1.5

Brief:

QOD

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Interval takeoff
- d. Running rendezvous
- e. Parade turns
- f. Crossunder
- g. Breakup and rendezvous (4 x 250, 2 x 300 desired)
- h. Underrun
- i. Lead change
- j. Section break
- k. Touch-and-go landings
- l. Simulated operational emergency
- m. Precautionary approach

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-09	T-45/FC	FORM-07 2 A/C	FORMATION SEVEN	1.5

Brief:

QOD

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Interval takeoff
- d. Running rendezvous
- e. Parade turns
- f. IFR parade
- g. Crossunder
- h. Breakup and rendezvous (4 x 250, 2 x 300 desired)
- i. Underrun
- j. TACAN rendezvous
- k. Lead change
- l. Section missed approach
- m. Section break
- n. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-10	T-45/FC	FORM-08X 2 A/C	FORMATION EIGHT CHECK	1.5

Brief:

QOD

Review:

- a. Formation ground OPS
- b. Formation communications
- c. Interval takeoff
- d. Running rendezvous
- e. Parade turns
- f. IFR parade
- g. Crossunder
- h. Breakup and rendezvous (4 x 250, 2 x 300 desired)
- i. Underrun
- j. TACAN rendezvous
- k. Lead change
- l. Section approach
- m. Section missed approach
- n. Section break
- o. Precautionary approach
- p. Touch-and-go landings

NOTE: Jacket review required.

05-11	T-45/ SOLO	FORM-09 2 A/C	FORMATION NINE	1.5
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Brief:

QOD

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Interval takeoff
- d. Parade position
- e. Crossunder
- f. Breakup and rendezvous (4 x 250, 2 x 300 desired)
- g. Lead change
- h. Section break
- i. Landings (not graded)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-12	T-45/FC	FORM-10 2 A/C	FORMATION TEN	1.5

Brief:

QOD

Introduce:

- a. Section takeoff (if done)
- b. Cruise position
- c. Cruise maneuvering

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Running rendezvous
- d. IFR parade
- e. Parade position
- f. Crossunder
- g. Breakup and rendezvous (2 x 250/2 x 300)
- h. Underrun
- i. Lead change
- j. Section break
- k. Touch-and-go landings

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-13	T-45/FC	FORM-11 2 A/C	FORMATION ELEVEN	1.5

Brief:

QOD

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Section takeoff (if done)
- d. IFR parade
- e. Parade position
- f. Crossunder
- g. Breakup and rendezvous (2 x 250/2 x 300)
- h. Cruise position
- i. Cruise maneuvering
- j. Underrun
- k. Lead change
- l. Section break
- m. Precautionary approach
- n. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-14	T-45/FC	FORM-12 2 A/C	FORMATION TWELVE	1.5

Brief:

QOD

Introduce:

- a. Column position
- b. Column maneuvering
- c. Tail chase (fuel permitting)

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Section takeoff (if done)
- d. Parade position
- e. Crossunder
- f. Breakup and rendezvous (2 x 250/2 x 300)
- g. Underrun
- h. Cruise
- i. Lead change
- j. Section approach
- k. Section missed approach
- l. Section break
- m. Touch-and-go landings

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-15	T-45/FC	FORM-13 2 A/C	FORMATION THIRTEEN	1.5

Brief:

QOD

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Section takeoff (if done)
- d. IFR parade
- e. Parade position
- f. Crossunder
- g. Breakup and rendezvous (2 x 250/2 x 300)
- h. Underrun
- i. Cruise
- j. Column formation
- k. Tail chase (fuel permitting)
- l. Lead change
- m. Section break
- n. Touch-and-go landings



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-16	T-45/FC	FORM-14X 2 A/C	FORMATION FOURTEEN CHECK	1.5

Brief:

QOD

Introduce:

Approach wingman NORDO (IUT lead at IP discretion)

Review:

- a. Formation ground OPS
- b. Formation communications
- c. Section takeoff (if done)
- d. IFR parade
- e. Parade position
- f. Crossunder
- g. Breakup and rendezvous (2 x 250/2 x 300)
- h. Underrun
- i. Cruise
- j. Column formation
- k. Tail chase (fuel permitting)
- l. Lead change
- m. Touch-and-go landings
- n. Precautionary approach

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-17	T-45/RC	FORM-15 2 A/C	FORMATION FIFTEEN	1.5

Brief:

QOD

Practice:

- a. Formation ground OPS
- b. Formation communications
- c. Section takeoff (if done)
- d. IFR parade
- e. Parade position
- f. Crossunder
- g. Breakup and rendezvous (2 x 250/2 x 300)
- h. Underrun
- i. Cruise
- j. Column formation
- k. Tail chase (fuel permitting)
- l. Lead change
- m. Section approach
- n. Section missed approach
- o. Section break
- p. Precautionary approach
- q. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-18	T-45/RC	FORM-16X 2 A/C	FORMATION SIXTEEN CHECK	1.5

Brief:

QOD

Review:

- a. Prepare for instruction
- b. Review student records
- c. Event requirements
- d. Brief
- e. Event overview
- f. Presentation techniques
- g. Marshal
- h. Visual communications
- i. Section takeoff (if done)
- j. IFR parade
- k. Parade turns
- l. Crossunder
- m. Breakup and rendezvous (2 x 250; 2 x 300)
- n. Underrun
- o. Running rendezvous (altitude)
- p. TACAN rendezvous
- q. Cruise position
- r. Column formation
- s. Tail chase (fuel permitting)
- t. Lead change
- u. Section approach
- v. Section missed approach
- w. Section break
- x. Full stop landing
- y. Flight instruction
- z. Introduce/demonstrate techniques
- aa. Guidance/feedback
- bb. Debrief
- cc. Grades assignment

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-19	T-45/FC	FORM-17 4 A/C	FORMATION SEVENTEEN	1.5

Brief:

QOD

Introduce:

- a. Division ground OPS
- b. Visual communications
- c. Interval takeoff
- d. Division rendezvous
- e. Section crossunder
- f. Balanced parade
- g. Balanced parade turns
- h. Breakup and rendezvous (4 x 250; 2 x 300)
- i. Division cruise
- j. Shuffle division
- k. Division break

Practice:

- a. Formation communications
- b. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-20	T-45/FC	FORM-18 4 A/C	FORMATION EIGHTEEN	1.5

Brief:

QOD

Practice:

- a. Division ground OPS
- b. Formation communications
- c. Visual communications
- d. Interval takeoff
- e. Division rendezvous
- f. Section crossunder
- g. Balanced parade turns
- h. Breakup and rendezvous (4 x 250; 2 x 300)
- i. Division cruise
- j. Shuffle division
- k. Division break
- l. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-21	T-45/RC	FORM-19 4 A/C	FORMATION NINETEEN	1.5

Brief:

QOD

Practice:

- a. Division ground OPS
- b. Formation communications
- c. Visual communications
- d. Interval takeoff
- e. Division rendezvous
- f. Section crossunder
- g. Balanced parade turns
- h. Breakup and rendezvous (4 x 250; 2 x 300)
- i. Division cruise
- j. Shuffle division
- k. Division break
- l. Touch-and-go landings

05-22	T-45/RC	FORM-20 4 A/C	FORMATION TWENTY	1.5
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Brief:

QOD

Practice:

- a. Division ground OPS
- b. Formation communications
- c. Visual communications
- d. Interval takeoff
- e. Division rendezvous
- f. Section crossunder
- g. Balanced parade turns
- h. Breakup and rendezvous (4 x 250; 2 x 300)
- i. Division cruise
- j. Shuffle division
- k. Division break
- l. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-23	T-45/RC	FORM-21X 4 A/C	FORMATION TWENTY-ONE CHECK	1.5

Brief:

QOD

Review:

- a. Prepare for instruction
- b. Review student records
- c. Event requirements
- d. Brief
- e. Event overview
- f. Presentation techniques
- g. Division ground OPS
- h. Formation communications
- i. Visual communications
- j. Interval takeoff
- k. Division rendezvous
- l. Section crossunder
- m. Balanced parade turns
- n. Breakup and rendezvous (4 x 250; 3 x 300)
- o. Division cruise
- p. Shuffle division
- q. Division break
- r. Touch-and-go landings
- s. Flight instruction
- t. Introduce/demonstrate techniques
- u. Guidance/feedback
- v. Debrief
- w. Grades assignment

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-26	T-45/FC	NFORM-01 2 A/C	NIGHT FORMATION ONE	1.5

Brief:

- a. QOD
- b. Landing pattern
- c. Formation safety
- d. Emergencies

Introduce:

- a. Formation ground ops
- b. Marshal/holdshort
- c. Individual takeoff
- d. TACAN rendezvous
- e. IFR parade
- f. Crossunder
- g. Breakup and rendezvous (4 x 250)
- h. Running rendezvous (altitude)
- i. Lead change
- j. Section missed approach
- k. Touch-and-go/rejoin

Practice:

- a. Formation communications
- b. Section approach
- c. Section break
- d. Touch-and-go landings



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-27	T-45/FC	NFORM-02 2 A/C	NIGHT FORMATION TWO	1.5

Brief:

- a. QOD
- b. NORDO lead change
- c. Total electrical failure

Practice:

- a. Formation ground ops
- b. Marshal/holdshort
- c. Formation communications
- d. Individual takeoff
- e. TACAN rendezvous
- f. IFR parade
- g. Crossunder
- h. Breakup and rendezvous (4 x 250)
- i. Running rendezvous (altitude)
- j. Lead change
- k. Section approach
- l. Section missed approach
- m. Touch-and-go/rejoin
- n. Section break
- o. Touch-and-go landings

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-28	T-45/FC	NFORM-03X 2 A/C	NIGHT FORMATION THREE CHECK	1.5

Brief:

- a. QOD
- b. Night BINGO procedures

Review:

- a. Formation ground ops
- b. Formation communications
- c. Individual takeoff
- d. TACAN rendezvous
- e. IFR parade
- f. Crossunder
- g. Breakup and rendezvous
- h. Running rendezvous (altitude)
- i. Lead change
- j. Section approach
- k. Section missed approach
- l. Section break
- m. Touch-and-go landings

NOTE: Touch-and-go/rejoin (if not flown on NFORM-01 or 02).

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-29	T-45/RC	NFORM-04 2 A/C	NIGHT FORMATION FOUR	1.5

Brief:

QOD

Introduce:

- a. Prepare for instruction
- b. Flight instruction

Practice:

- a. Marshal
- b. Taxi
- c. Individual takeoff
- d. TACAN rendezvous
- e. IFR parade
- f. Crossunder
- g. Breakup and rendezvous (4 x 250)
- h. Running rendezvous (altitude)
- i. Lead change
- j. Section approach
- k. Section missed approach
- l. Section break
- m. Touch-and-go landings

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-30	T-45/FC	NFORM-05 2 A/C	NIGHT FORMATION FIVE	1.5

Brief:

QOD

Practice:

- a. Marshal
- b. Taxi
- c. Individual takeoff
- d. TACAN rendezvous
- e. Section climbout
- f. IFR parade
- g. Crossunder
- h. Breakup and rendezvous
- i. Running rendezvous
- j. Lead change
- k. Section approach
- l. Configuration change
- m. Section missed approach
- n. Section break
- o. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
05-31	T-45/FC	NFORM-06X 2 A/C	NIGHT FORMATION SIX CHECK	1.5

Perform:

Flight briefed and debriefed by IUT. This flight will be a typical formation lead for a student solo flight, and the IP will note common student errors to the IUT and discuss instructional techniques. IUT fill out the grade sheet on student. IP will ensure IUT conforms to proper grading standards and uses standard NATOPS hand signals. Rendezvous safety will be discussed. After satisfactory completion of this flight, IUT is qualified to instruct 2-plane Formation. Further flights may be required prior to designation as a section leader at the CO's discretion.

Brief:

QOD

Practice: (All as lead)

- a. Marshal
- b. Taxi/hold short
- c. Individual takeoff
- d. TACAN rendezvous
- e. IFR parade
- f. Crossunder
- g. Breakup and rendezvous
- h. Running rendezvous
- i. Lead change
- j. Section approach
- k. Section missed approach
- l. Section break
- m. Touch-and-go landings

Review:

- a. Prepare for instruction
- b. Brief
- c. Flight instruction
- d. Performance evaluation
- e. Guidance/feedback
- f. Debrief

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MODULE 06

OPERATIONAL NAVIGATION AND WEAPONS

OBJECTIVES:

1. Operational Navigation Stage. Provide the IUT with initial training in performing and conducting effective instruction in Operational Navigation. The module will provide the IUT with phase goals and training techniques for instructing this stage.

Includes: Operational Navigation ground school (ONAV-01 through ONAV-06X); Operational Navigation Flight Procedures (ONFP-01 through ONFP-03X); and Operational Navigation simulators and flights (ON-01S through ON-09X), including a standardization check.

NOTE 1: ON-10 through ON-13X (road recce) are in Module 07.

NOTE 2: IUTs without previous ONAV training will also attend ONAV Ground School (academics) to qualify for ON Stage.

NOTE 3: Jacket review required prior to check flights.

2. Weapons Stage. Introduce the IUT to air-ground delivery with emphasis on dive angle control, airspeed control, pipper control, scan, corrections, accuracy, and pattern. Training will also provide the IUT with phase goals and training techniques for instructing the stage.

Includes: Weapons Flight Procedures (WEPFP-01 through WEPFP-05X); Weapons simulators and flights (WEP-01S through WEP-14X).

NOTE 1: Two off-target rendezvous are required prior to completion of WEP-08X.

NOTE 2: One hung ordnance approach is required prior to WEP-08X.

NOTE 3: A minimum of four bombs delivered is required to complete each flight.

NOTE 4: CCIP target tracking may be practiced on WEP-07 and flown in the delivery mode and pattern as introduced on WEP-06.

NOTE 5: Jacket review required prior to check flights.

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-01	LAB	ONAV-01	MANUAL ROUTE CONSTRUCTION	6.0
06-02	LAB	ONAV-02	MANUAL ROUTE CONSTRUCTION	6.0
06-03	LAB	ONAV-03	COMPUTER ROUTE CONSTRUCTION	5.5
06-04	LAB	ONAV-04	COMPUTER ROUTE CONSTRUCTION	5.5
06-05	LAB	ONAV-05	ONAV REVIEW	1.0
06-06	PENCIL	ONAV-06X	ONAV EXAMINATION	4.0
06-07	CAI	ONFP-01	LOW LEVEL WAYPOINT NAVIGATION	0.7
06-08	MIL	ONFP-02	REVIEW OF THE ONAV FTI	2.0
06-09	CAI	ONFP-03X	OPERATIONAL NAVIGATION STAGE EXAMINATION	1.0
06-10	OFT	ON-01S	OPERATIONAL NAVIGATION ONE SIMULATOR	1.5
06-11	OFT	ON-02S	OPERATIONAL NAVIGATION TWO SIMULATOR	1.5
06-12	T-45/FC	ON-03	OPERATIONAL NAVIGATION THREE	1.3
06-13	T-45/FC	ON-04	OPERATIONAL NAVIGATION FOUR	1.0
06-14	T-45/FC	ON-05	OPERATIONAL NAVIGATION FIVE	1.2
06-15	T-45/FC	ON-06X	OPERATIONAL NAVIGATION SIX CHECK	1.2
06-16	T-45/RC	ON-07	OPERATIONAL NAVIGATION SEVEN	1.2



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-17	T-45/RC	ON-08	OPERATIONAL NAVIGATION EIGHT	1.2
06-18	T-45/RC	ON-09X	OPERATIONAL NAVIGATION NINE CHECK	1.2
06-19	CAI	WEPFP-01	WEAPONS DATA ENTRY PROCEDURES	0.8
06-20	MIL	WEPFP-02	WEAPONS DELIVERY	0.8
06-21	MIL	WEPFP-03	WEAPONS DELIVERY	0.7
06-22	MIL	WEPFP-04	WEAPONS DELIVERY	1.5
06-23	CAI	WEPFP-05X	WEAPONS STAGE EXAMINATION	1.0
06-24	OFT	WEP-01S	WEAPONS ONE SIMULATOR	1.3
06-25	OFT	WEP-02S	WEAPONS TWO SIMULATOR	1.0
06-26	OFT	WEP-03S	WEAPONS THREE SIMULATOR	1.0
06-27	OFT	WEP-04S	WEAPONS FOUR SIMULATOR	1.0
06-28	OFT	WEP-05SX	WEAPONS FIVE SIMULATOR CHECK	1.0
06-29	T-45/FC	WEP-06	WEAPONS SIX	1.3
06-30	T-45/FC	WEP-07	WEAPONS SEVEN	1.3
06-31	T-45/FC	WEP-08X	WEAPONS EIGHT CHECK	1.3
06-32	T-45/ SOLO	WEP-09	WEAPONS NINE	1.3
06-33	T-45/FC	WEP-10X	WEAPONS TEN CHECK	1.3
06-34	T-45/ SOLO	WEP-11	WEAPONS ELEVEN	1.3
06-35	T-45/RC	WEP-12	WEAPONS TWELVE	1.3
06-36	T-45/FC	WEP-13	WEAPONS THIRTEEN	1.3
06-37	T-45/FC	WEP-14X	WEAPONS FOURTEEN CHECK	1.3

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-10	OFT	ON-01S	OPERATIONAL NAVIGATION ONE SIMULATOR	1.5

Brief:

- a. QOD
- b. Low altitude hazards
- c. Weather Response

Demonstrate:

Enter HUD declutter mode

Introduce:

- a. Check/test HUD
- b. Enter system data
- c. HUD failure
- d. IMC transit to route
- e. Route entry
- f. Low-level basic airwork
- g. Interpret charts
- h. Recognize checkpoints
- i. Fuel/time calculations
- j. Course/time corrections
- k. Communications

Practice:

- a. ONAV planning
- b. Chart preparation
- c. Recovery to pattern
- d. Landing(s)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-11	OFT	ON-02S	OPERATIONAL NAVIGATION TWO SIMULATOR	1.5

Brief:

- a. QOD
- b. MFD failure
- c. Low altitude hazards

Introduce:

- a. Weather response
- b. Low-level waypoint navigation
- c. BINGO

Practice:

- a. Chart preparation
- b. ONAV planning
- c. Enter system data
- d. HUD failure
- e. Route entry
- f. Knowledge of route
- g. Interpret charts
- h. Recognize checkpoints
- i. Fuel/time calculations
- j. Course/time corrections
- k. Communications
- l. Recovery to pattern
- m. Landing(s)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-12	T-45/FC	ON-03	OPERATIONAL NAVIGATION THREE	1.3

Brief:

- a. QOD
- b. Emergency BINGO
- c. Maximum range profile
- d. Inadvertent low altitude IFR
- e. Low altitude emergencies

Practice:

- a. Chart preparation
- b. ONAV planning
- c. Route entry
- d. Interpret charts
- e. Recognize checkpoints
- f. Knowledge of route
- g. Fuel/time calculations
- h. Course/time corrections
- i. Communications
- j. BINGO
- k. Recovery to pattern
- l. Landing(s)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-13	T-45/FC	ON-04	OPERATIONAL NAVIGATION FOUR	1.0

Brief:

- a. QOD
- b. Low altitude flying safety
- c. Sun angles
- d. Shadows

Demonstrate:

Target attack (per SOP)

Practice:

- a. Chart preparation
- b. ONAV planning
- c. Route entry
- d. Interpret charts
- e. Recognize checkpoints
- f. Knowledge of route
- g. Fuel/time calculations
- h. Course/time corrections
- i. Communications
- j. Recovery to pattern
- k. Landing(s)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-14	T-45/FC	ON-05	OPERATIONAL NAVIGATION FIVE	1.2

Brief:

- a. QOD
- b. Low altitude flying safety
- c. Ridgeline crossing
- d. Waypoint data entry
- e. Use of sequential steering

Demonstrate:

Target attack (per SOP)

Introduce:

Low-level waypoint navigation

Practice:

- a. Chart preparation
- b. ONAV planning
- c. Route entry
- d. Interpret charts
- e. Recognize checkpoints
- f. Knowledge of route
- g. Fuel/time calculations
- h. Course/time corrections
- i. Communications
- j. Recovery to pattern
- k. Landing(s)

NOTE: System navigation flight

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-15	T-45/FC	ON-06X	OPERATIONAL NAVIGATION SIX CHECK	1.2

Brief:

- a. QOD
- b. Low altitude flight safety
- c. Mission task management
- d. Auto sequential steering

Demonstrate:

Target attack (per SOP)

Review:

- a. Chart preparation
- b. ONAV planning
- c. Route entry
- d. Interpret charts
- e. Low-level waypoint navigation
- f. Recognize checkpoints
- g. Knowledge of route
- h. Fuel/time calculations
- i. Course/time corrections
- j. Communications
- k. Recovery to pattern
- l. Landing(s)

NOTES:

- (1) Jacket review required.
- (2) System navigation flight.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-16	T-45/RC	ON-07	OPERATIONAL NAVIGATION SEVEN	1.2

Brief:

- a. QOD
- b. Low altitude flying safety
- c. Tactical implications of timing
- d. Go/no go criteria

Practice:

- a. Chart preparation
- b. ONAV planning
- c. Route entry
- d. Interpret charts
- e. Low-level waypoint navigation
- f. Recognize checkpoints
- g. Knowledge of route
- h. Fuel/time calculations
- i. Course/time corrections
- j. Communications
- k. BINGO
- l. Min/emergencies fuel instrument approach
- m. Landing(s)

06-17	T-45/RC	ON-08	OPERATIONAL NAVIGATION EIGHT	1.2
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Brief:

- a. QOD
- b. Weather response
- c. Low altitude flight safety

Practice:

- a. ONAV planning
- b. Route entry
- c. Interpret charts
- d. Low-level waypoint navigation
- e. Recognize checkpoints
- f. Monitor flight log
- g. Fuel/time calculations
- h. Course/time corrections
- i. Communications
- j. BINGO
- k. Landing(s)



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-18	T-45/RC	ON-09X	OPERATIONAL NAVIGATION NINE CHECK	1.2

Perform:

Flight briefed by IUT. This flight will most approximate a typical student training mission. Stan IP will fly and make common student errors with IUT correcting, evaluating, and debriefing.

Brief:

QOD

Review:

- a. Chart preparation
- b. ONAV planning
- c. Route entry
- d. Interpret charts
- e. Low-level waypoint navigation
- f. Recognize checkpoints
- g. Knowledge of route
- h. Fuel/time calculations
- i. Course/time corrections
- j. Communications
- k. BINGO
- l. Recovery to pattern
- m. Landing(s)

NOTE: Jacket review required.

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-24	OFT	WEP-01S	WEAPONS ONE SIMULATOR	1.3

Brief:

QOD

Introduce:

- a. Enter system data
- b. Target procedures
- c. Armament system management
- d. 30-degree bombs
- e. Abeam
- f. Roll-in
- g. Tracking/dive angle (straight path technique)
- h. Error corrections
- i. Release parameters
- j. Dive recovery
- k. Abort run
- l. Communications
- m. Rendezvous
- n. HUD failure (air-to-ground)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-25	OFT	WEP-02S	WEAPONS TWO SIMULATOR	1.0

Brief:

QOD

Introduce:

- a. 20-degree bombs
- b. Tracking/dive angle (curvilinear to straight path technique)
- c. Transition to 20-degree pattern

Practice:

- a. Enter system data
- b. Target procedures
- c. Armament system management
- d. 30-degree bombs
- e. Abeam
- f. Roll-in
- g. Tracking/dive angle (straight path technique)
- h. Error corrections
- i. Release parameters
- j. Dive recovery
- k. Abort run
- l. Communications
- m. Rendezvous

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-26	OFT	WEP-03S	WEAPONS THREE SIMULATOR	1.0

Brief:

QOD

Introduce:

- a. Transition to 10-degree bombs
- b. 10-degree bombs
- c. CCIP

Practice:

- a. Enter system data
- b. Target procedures
- c. Armament system management
- d. 30-degree bombs
- e. Abeam
- f. Roll-in
- g. Tracking/dive angle
- h. Error corrections
- i. Release parameters
- j. Dive recovery
- k. Abort run
- l. Communications
- m. Rendezvous

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-27	OFT	WEP-04S	WEAPONS FOUR SIMULATOR	1.0

Brief:

- a. QOD
- b. Compute offset aimpoint

Introduce:

- a. 30-degree rockets
- b. Strafe
- c. Firing altitude
- d. Strafe recovery

Practice:

- a. Enter system data
- b. Target procedures
- c. Armament system management
- d. Abeam
- e. Roll-in
- f. Tracking/dive angle
- g. CCIP target tracking
- h. Error corrections
- i. Firing parameters
- j. Dive recovery
- k. Abort run
- l. Communications
- m. Rendezvous

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-28	OFT	WEP-05SX	WEAPONS FIVE SIMULATOR CHECK	1.0

Brief:

- a. QOD
- b. Compute CEP
- c. Weapons emergencies
- d. Emergency jettison

Review:

- a. Compute offset aimpoint
- b. Target procedures
- c. Armament system management
- d. 30-degree bombs
- e. 20-degree pattern
- f. 10-degree bombs
- g. CCIP target tracking
- h. Strafe
- i. Abeam
- j. Roll-in
- k. Tracking/dive angle
- l. Error corrections
- m. Release/firing parameters
- n. Dive recovery
- o. Abort run
- p. Communications
- q. Rendezvous

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-29	T-45/FC	WEP-06	WEAPONS SIX	1.3

Brief:

- a. QOD
- b. Formation safety
- c. Mil settings
- d. Master arm safety
- e. Inadvertent release

Introduce:

- a. Weapons preflight
- b. Hung ordnance checks
- c. CCIP bomb 10-degree/30-degree (if done)

Practice:

- a. Target procedures
- b. Armament system management
- c. 30-degree bombs
- d. 20-degree pattern
- e. 10-degree bombs
- f. Abeam
- g. Roll-in
- h. Tracking/dive angle
- i. Error corrections
- j. Release/firing parameters
- k. Dive recovery
- l. Pattern interval
- m. Communications
- n. Rendezvous
- o. Hung ordnance approach (if flown)
- p. Landing(s)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-30	T-45/FC	WEP-07	WEAPONS SEVEN	1.3

Brief:

- a. QOD
- b. Wind correction, offset-aimpoint

Practice:

- a. Weapons preflight
- b. Target procedures
- c. Armament system management
- d. 30-degree bombs
- e. CCIP bomb 10-degree/30-degree (if done)
- f. Roll-in
- g. Tracking/dive angle
- h. Error corrections
- i. Release/firing parameters
- j. Dive recovery
- k. Pattern interval
- l. Communications
- m. Rendezvous
- n. Hung ordnance checks
- o. Hung ordnance approach (if flown)
- p. Landing(s)
- q. Accuracy

NOTES:

- (1) One hung ordnance approach is required prior to WEP-08X.
- (2) WEP-07 or WEP-08X shall be flown as a 4-plane.



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-31	T-45/FC	WEP-08X	WEAPONS EIGHT CHECK	1.3

Brief:

- a. QOD
- b. Wind correction, offset-aimpoint
- c. Switchology errors
- d. Ordnance release trouble shoot

Practice:

Release/firing parameters

Review:

- a. Weapons preflight
- b. Target procedures
- c. Armament system management
- d. 30-degree bombs
- e. 10-degree pattern
- f. Roll-in
- g. Tracking/dive angle
- h. Error corrections
- i. Dive recovery
- j. Pattern interval
- k. Communications
- l. Rendezvous
- m. Hung ordnance checks
- n. Hung ordnance approach (if flown)
- o. Landing(s)
- p. Accuracy

NOTES:

- (1) Jacket review required.
- (2) WEP-07 or 08X must be flown as a 4 plane.

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-32	T-45/ SOLO	WEP-09	WEAPONS NINE	1.3

Brief:

- a. QOD
- b. FTI safety procedures

Practice:

- a. Weapons preflight
- b. Target procedures
- c. Armament system management
- d. 30-degree bombs
- e. 10-degree pattern
- f. Roll-in
- g. Tracking/dive angle
- h. Error corrections
- i. Release/firing parameters
- j. Dive recovery
- k. Pattern interval
- l. Communications
- m. Rendezvous
- n. Hung ordnance checks
- o. Hung ordnance approach (if flown)
- p. Landing(s) (not graded)
- q. Accuracy

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-33	T-45/FC	WEP-10X	WEAPONS TEN CHECK	1.3

Brief:

- a. QOD
- b. Safety requirements for forward firing ordnance
- c. Ricochet danger (jinking)
- d. Emergencies

Review:

- a. Weapons preflight
- b. Arming/dearming
- c. Target procedures
- d. Armament system management
- e. 30-degree bombs
- f. 10-degree bombs
- g. Roll-in
- h. Tracking/dive angle
- i. Error corrections
- j. Release/firing parameters
- k. Dive recovery
- l. Pattern interval
- m. Communications
- n. Rendezvous
- o. Hung ordnance checks
- p. Hung ordnance approach
- q. Landing(s)
- r. Accuracy

NOTE: Jacket review required.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-34	T-45/ SOLO	WEP-11	WEAPONS ELEVEN	1.3

Brief:

- a. QOD
- b. FTI safety procedures

Practice:

- a. Weapons preflight
- b. Arming/dearming
- c. Target procedures
- d. Armament system management
- e. 30-degree bombs
- f. 10-degree bombs
- g. Roll-in
- h. Tracking/dive angle
- i. Error corrections
- j. Release/firing parameters
- k. Dive recovery
- l. Pattern interval
- m. Communications
- n. Rendezvous
- o. Hung ordnance checks
- p. Hung ordnance approach (if flown)
- q. Landing(s)
- r. Accuracy

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-35	T-45/RC	WEP-12	WEAPONS TWELVE LEAD	1.3

Brief:

QOD

Introduce:

Flight lead

Practice:

- a. Weapons preflight
- b. Arming
- c. Target procedures
- d. 30-degree bombs
- e. 10-degree pattern
- f. Weapons pattern
- g. Roll-in
- h. Tracking/dive angle
- i. Error corrections
- j. Release parameters
- k. Dive recovery
- l. Pattern interval
- m. Communications
- n. Rendezvous
- o. Hung ordnance checks (if flown)
- p. Dearming

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-36	T-45/FC	WEP-13	WEAPONS THIRTEEN LEAD	1.3

Brief:

- a. Flight will be briefed by Stan IP
- b. QOD

Introduce:

- a. Prepare for instruction
- b. Flight instruction
- c. Performance evaluation

Practice:

- a. Review student records
- b. Event requirements
- c. Event overview
- d. Flight lead
- e. Weapons preflight
- f. Arming
- g. Target procedures
- h. 30-degree bombs
- i. 10-degree bombs
- j. Weapons pattern
- k. Roll-in
- l. Tracking/dive angle
- m. Error corrections
- n. Release parameters
- o. Dive recovery
- p. Pattern interval
- q. Communications
- r. Rendezvous
- s. Hung ordnance checks
- t. Dearming
- u. Introduce/demonstrate techniques
- v. Assess performance
- w. Assess skills
- x. Assess knowledge
- y. Assess confidence
- z. Guidance/feedback
- aa. Safety
- bb. Debrief
- cc. Grades assignment

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
06-37	T-45/FC	WEP-14X	WEAPONS FOURTEEN CHECK BRIEF/LEAD	1.3

Brief:

QOD

Review:

- a. Prepare for instruction
- b. Brief
- c. Flight lead
- d. Compute offset aim point
- e. Weapons preflight
- f. Check/test HUD
- g. Set HUD
- h. Arming
- i. Target procedures
- j. Set armament switches
- k. Weapons pattern
- l. Roll-in
- m. Tracking/dive angle
- n. Error corrections
- o. Release parameters
- p. Dive recovery
- q. Pattern interval
- r. 30-degree bombs
- s. 10-degree bombs
- t. 20-degree bombs
- u. Abort
- v. Communications
- w. Safe switches
- x. Rendezvous
- y. Hung ordnance checks
- z. Hung ordnance approach
- aa. Landing rollout
- bb. Dearming
- cc. HUD failure
- dd. Weapons emergencies
- ee. Flight instruction
- ff. Performance evaluation
- gg. Guidance/feedback
- hh. Debrief

NOTE: Jacket review required.

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MODULE 07

TACTICAL FORMATION, OPERATIONAL NAVIGATION (ROAD RECCE),  
OUT-OF-CONTROL FLIGHT AND AIR COMBAT MANEUVERING

OBJECTIVE:

1. Tactical Formation. Provide the IUT with instruction in Tactical Formation as a precursor to Air Combat Maneuvering in preparation for instructing these stages. The module will provide the IUT with phase goals, training techniques, and rules of engagement for instructing the stage.

Includes: Tactical Formation Flight Procedures (TFFP-01 through TFFP-04X); and Tactical Formation flights (TACF-01 through TACF-06X).

NOTE: Jacket review required prior to check flights.

2. Operational Navigation. This is a continuation of training initiated in Module 05. This part of training is the 2 aircraft road recce which will provide the IUT with phase goals and training techniques for instructing the stage.

Includes: Operational Navigation Flight Procedures (ONFP-04 and ONFP-05X); multi-aircraft Operational Navigation flights (ON-10 through ON-13X) and a standardization check.

NOTE: Jacket review required prior to check flights.

3. Out-of-Control Flight. Provide the IUT with training in Out-of-Control Flight instructional techniques. The module will provide the IUT with phase goals and training techniques for instructing this stage.

Includes: Out-of-Control Flight Procedures (OCFFP-02 and OCFFP-03X); and OCF simulator and flight (OCF-03S and OCF-04X).

NOTE 1: OCFFP-02 is a refresher of lesson materials covered in OCFFP-01. OCFFP-01 may be used for this lesson. OCFFP-03X is the same examination as OCFFP-02X used in the Regular IUT curriculum (CNATRAINST 1542.127).

NOTE 2: Jacket review required prior to check flights.

4. Air Combat Maneuvering. Introduce the IUT to the air combat maneuvering environment with emphasis on stall/out-of-control flight avoidance techniques, combat spread formation, lookout doctrine, and offensive and defensive maneuvering during 1 V 1 and 2 V 1 engagements.

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Includes: Air Combat Maneuvering Flight Procedures (ACMFP-01 through ACMFP-07X); and Air Combat Maneuvering flights (ACM-01 through ACM-15X).

NOTE 1: IUT's shall be expected to lead flight to base during ACM stage at IP's discretion.

NOTE 2: OCF-04X must be completed prior to ACM-01.

NOTE 3: Jacket review required prior to check flights.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-01	CAI	TFFP-01	HUD/DATA ENTRY PROCEDURES	0.7
07-02	MIL	TFFP-02	INTRODUCTION TO TACTICAL FORMATION PROCEDURES	1.5
07-03	MIL	TFFP-03	TACTICAL FORMATION	1.5
07-04	CAI	TFFP-04X	TACTICAL FORMATION STAGE EXAMINATION	1.0
07-05	T-45/FC	TACF-01	TACTICAL FORMATION ONE	1.2
07-06	T-45/FC	TACF-02	TACTICAL FORMATION TWO	1.2
07-07	T-45/FC	TACF-03	TACTICAL FORMATION THREE	1.2
07-08	T-45/FC	TACF-04X	TACTICAL FORMATION FOUR CHECK	1.2
07-09	T-45/FC	TACF-05	TACTICAL FORMATION FIVE (OBSERVED LEAD)	1.2
07-10	T-45/FC	TACF-06X	TACTICAL FORMATION SIX CHECK (LEAD)	1.2
07-11	MIL	ONFP-04	TWO PLANE ONAV ROAD RECCE	1.0
07-12	CAI	ONFP-05X	TWO PLANE ONAV EXAMINATION	0.4
07-13	T-45/FC	ON-10	OPERATIONAL NAVIGATION TEN (ROAD RECCE)	1.2
07-14	T-45/FC	ON-11	OPERATIONAL NAVIGATION ELEVEN (ROAD RECCE)	1.4
07-15	T-45/FC	ON-12	OPERATIONAL NAVIGATION TWELVE (ROAD RECCE)	1.4

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-16	T-45/FC	ON-13X	OPERATIONAL NAVIGATION THIRTEEN CHECK (ROAD RECCE)	1.2
07-17	MIL	OCFFP-02	OUT-OF-CONTROL FLIGHT PROCEDURES (OCF STAGE NOTE APPLIES)	1.0
07-18	CAI	OCFFP-03X	OUT-OF-CONTROL FLIGHT PROCEDURES EXAMINATION (OCF STAGE NOTE APPLIES)	1.0
07-19	OFT	OCF-03S	OUT-OF-CONTROL FLIGHT THREE SIMULATOR (IUT)	1.5
07-20	T-45/FC	OCF-04X	OUT-OF-CONTROL FLIGHT FOUR CHECK (IUT)	1.0
07-21	MIL	ACMFP-01	INTRODUCTION TO ACM	0.8
07-22	MIL	ACMFP-02	ACM 1 V 1 OFFENSIVE MANEUVERING	1.0
07-23	MIL	ACMFP-03	ACM 1 V 1 DEFENSIVE MANEUVERING	1.0
07-24	MIL	ACMFP-04	ACM 1 V 1 NEUTRAL STARTS	0.8
07-25	CAI	ACMFP-05X	ACM 1 V 1 STAGE EXAMINATION	1.0
07-26	T-45/FC	ACM-01	AIR COMBAT MANEUVERING ONE	1.1
07-27	T-45/FC	ACM-02	AIR COMBAT MANEUVERING TWO	1.1
07-28	T-45/FC	ACM-03X	AIR COMBAT MANEUVERING THREE CHECK	1.1
07-29	T-45/FC	ACM-04	AIR COMBAT MANEUVERING FOUR	1.1
07-30	T-45/FC	ACM-05	AIR COMBAT MANEUVERING FIVE	1.1
07-31	T-45/FC	ACM-06X	AIR COMBAT MANEUVERING SIX CHECK	1.1
07-32	T-45/FC	ACM-07	AIR COMBAT MANEUVERING SEVEN	1.1
07-33	T-45/FC	ACM-08	AIR COMBAT MANEUVERING EIGHT	1.1
07-34	T-45/ SOLO	ACM-09	AIR COMBAT MANEUVERING NINE	1.1
07-35	T-45/RC	ACM-10	AIR COMBAT MANEUVERING TEN	1.2

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-36	T-45/FC	ACM-11X	AIR COMBAT MANEUVERING ELEVEN CHECK (LEAD)	1.2
07-37	MIL	ACMFP-06	ACM 2 V 1 FLIGHT PROCEDURES	2.7
07-38	CAI	ACMFP- 07X	ACM 2 V 1 STAGE EXAMINATION	1.0
07-39	T-45/FC	ACM-12	AIR COMBAT MANEUVERING TWELVE	1.2
07-40	T-45/FC	ACM-13	AIR COMBAT MANEUVERING THIRTEEN	1.2
07-41	T-45/RC	ACM-14	AIR COMBAT MANEUVERING FOURTEEN (OBSERVED LEAD)	1.1
07-42	T-45/FC	ACM-15X	AIR COMBAT MANEUVERING FIFTEEN CHECK (LEAD)	1.1

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-05	T-45/FC	TACF-01	TACTICAL FORMATION ONE	1.2

Brief:

- a. QOD
- b. Lost sight
- c. VCR management
- d. GLOC maneuver
- e. 500' safety bubble

Introduce:

- a. Combat checks
- b. Voice communications
- c. Combat spread
- d. Check turns
- e. Shackle turns
- f. Cruise turns
- g. Uncalled cruise turns
- h. Tactical turns
- i. In-place turns
- j. Cross turns
- k. Gunsight tracking exercise
- l. Unknown airspeed rendezvous
- m. Situational awareness

Practice:

- a. HUD management
- b. Formation
- c. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-06	T-45/FC	TACF-02	TACTICAL FORMATION TWO	1.2

Brief:

- a. QOD
- b. Lost sight
- c. VCR management

Introduce:

- a. Off-heading shackle turns
- b. Displacement roll/reversal
- c. Loose deuce exercise

Practice:

- a. Combat checks
- b. Voice communications
- c. Formation
- d. Combat spread
- e. Check turns
- f. Shackle turns
- g. Cruise turns
- h. Uncalled cruise turns
- i. Tactical turns
- j. In-place turns
- k. Cross turns
- l. Gunsight tracking exercise (fuel permitting)
- m. Situational awareness
- n. Lead (if flown)
- o. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-07	T-45/FC	TACF-03	TACTICAL FORMATION THREE	1.2

Brief:

- a. QOD
- b. Lost sight
- c. VCR management

Practice:

- a. Combat checks
- b. Voice communications
- c. Formation
- d. Combat spread
- e. Check turns
- f. Shackle turns
- g. Cruise turns
- h. Tactical turns
- i. In-place turns
- j. Cross turns
- k. Loose deuce exercise
- l. Gunsight tracking exercise
- m. Displacement roll/reversal
- n. Unknown airspeed rendezvous
- o. Lead (if flown)
- p. Situational awareness
- q. Touch-and-go landings

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-08	T-45/FC	TACF-04X	TACTICAL FORMATION FOUR CHECK	1.2

Brief:

- a. QOD
- b. Lost sight

Review:

- a. Combat checks
- b. Voice communications
- c. Formation
- d. Combat spread
- e. Check turns
- f. Shackles turns
- g. Cruise turns
- h. Uncalled cruise turns
- i. Tactical turns
- j. In-place turns
- k. Cross turns
- l. Loose deuce exercise
- m. Gunsight tracking exercise
- n. Displacement roll/reversal
- o. Unknown airspeed rendezvous
- p. Lead (if flown)
- q. Touch-and-go landings

NOTE: Jacket review required.



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-09	T-45/FC	TACF-05	TACTICAL FORMATION FIVE (OBSERVED LEAD)	1.2

Brief:

- a. QOD
- b. Lost sight

Introduce:

- a. Brief
- b. Event overview
- c. Flight Instruction
- d. Performance evaluation
- e. Introduce/demonstrate techniques
- f. Guidance/feedback
- g. Debrief
- h. Grades assignment

Practice:

- a. Combat checks
- b. Voice communications
- c. Formation
- d. Combat spread
- e. Check turns
- f. Shackle turns
- g. Cruise turns
- h. Uncalled cruise turns
- i. Tactical turns
- j. In-place turns
- k. Cross turns
- l. Loose deuce exercise
- m. Displacement roll/reversal
- n. Gunsight tracking exercise
- o. Situational awareness
- p. Landing(s)

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-10	T-45/FC	TACF-06X	TACTICAL FORMATION SIX CHECK (LEAD)	1.2

Brief:

- a. QOD
- b. Lost sight

Review:

- a. Brief
- b. Flight instruction
- c. Combat checks
- d. Voice communications
- e. Formation
- f. Combat spread
- g. Check turns
- h. Shackle turns
- i. Cruise turns
- j. Uncalled cruise turns
- k. Tactical turns
- l. In-place turns
- m. Cross turns
- n. Loose deuce exercise
- o. Displacement roll/reversal
- p. Gunsight tracking exercise
- q. Situational awareness
- r. Landing(s)
- s. Performance evaluation
- t. Guidance/feedback
- u. Debrief

NOTE: Jacket review required.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-13	T-45/FC	ON-10	OPERATIONAL NAVIGATION TEN (ROAD RECCE)	1.2

Brief:

- a. QOD
- b. Emergency BINGO
- c. Maximum range profile
- d. Inadvertent low altitude IFR
- e. Low altitude emergencies
- f. NORDO procedures
- g. Display management

Introduce:

- a. Tactical lead
- b. Tactical wing
- c. Target description
- d. Target attack

Practice:

- a. Chart preparation
- b. ONAV planning
- c. Route entry
- d. Interpret charts
- e. Recognize checkpoints
- f. Knowledge of route
- g. Fuel/time calculations
- h. Course/time corrections
- i. Communications
- j. BINGO
- k. Recovery to pattern
- l. Landing(s)

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-14	T-45/FC	ON-11	OPERATIONAL NAVIGATION ELEVEN (ROAD RECCE)	1.4

Brief:

- a. QOD
- b. Two-plane armed reconnaissance missions
- c. Attacks on approved targets of opportunity with simulated ordnance
- d. Target area deconfliction
- e. Visual reconnaissance
- f. Lookout doctrine
- g. Response to bandit

Introduce:

Target description

Practice:

- a. ONAV planning
- b. Route entry
- c. Interpret charts
- d. Fuel/time calculations
- e. Course/time corrections
- f. Communications
- g. Tactical Wing
- h. Tactical lead
- i. BINGO

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-15	T-45/RC	ON-12	OPERATIONAL NAVIGATION TWELVE (ROAD RECCE)	1.4

Brief:

- a. QOD
- b. Lookout doctrine
- c. Response to bandit

Introduce:

- a. Prepare for instruction
- b. Brief
- c. Flight instruction
- d. Performance evaluation
- e. Guidance/feedback
- f. Debrief

Practice:

- a. Weather response
- b. ONAV planning
- c. Interpret charts
- d. Fuel/time calculations
- e. Course/time corrections
- f. Tactical lead
- g. Tactical wing
- h. Target description
- i. Communications
- j. BINGO

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-16	T-45/RC	ON-13X	OPERATIONAL NAVIGATION THIRTEEN CHECK (ROAD RECCE)	1.2

Brief:

- a. QOD
- b. Two-plane armed reconnaissance missions
- c. Attacks on approved targets of opportunity with simulated ordnance
- d. Visual reconnaissance

Review:

- a. Prepare for instruction
- b. Brief
- c. Flight instruction
- d. Weather response
- e. Chart preparation
- f. Check/test HUD
- g. Enter system data
- h. Interpret charts
- i. Low-level basic airwork
- j. Monitor flight log
- k. Fuel/time calculations
- l. Course/time corrections
- m. Communications
- n. BINGO
- o. Low altitude hazards
- p. Performance evaluation
- q. Guidance/feedback
- r. Debrief

NOTE: Jacket review required.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-19	OFT	OCF-03S	OUT-OF-CONTROL FLIGHT THREE SIMULATOR (IUT)	1.5

Brief:

- a. QOD
- b. Runaway trim
- c. Engine flameout
- d. Ejection situations

Introduce:

- a. High AOA/deep stall investigation/rudder induced departure
- b. Low airspeed recovery (70 degrees nose up)
- c. Low airspeed recovery (110 degrees nose up)
- d. Lateral stick adverse yaw departure
- e. Stuck throttle approach

Practice:

- a. Precautionary approach
- b. VFR landing pattern
- c. Touch-and-go, full flaps/slats
- d. Touch-and-go, no flaps/slats
- e. Full stop landing
- f. Straight-in Precautionary Approach
- g. Swerve after touchdown
- h. Field arrested landing with blown tire

NOTE: Two (2) stuck throttle approaches required (high, middle or low).

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-20	T-45/FC	OCF-04X	OUT-OF-CONTROL FLIGHT FOUR CHECK (IUT)	1.0

Brief:

- a. QOD
- b. Runaway trim
- c. Engine flameout
- d. Ejection situations

Introduce:

- a. Acceleration check
- b. Timed turns (minimum radius)
- c. 1 V 0 maneuvers as briefed

Review:

- a. Prepare for instruction
- b. Brief
- c. Flight instruction
- d. High AOA/deep stall investigation/rudder induced departure
- e. Low airspeed recovery (70 degrees nose up)
- f. Low airspeed recovery (110 degrees nose up)
- g. Lateral stick adverse yaw departure
- h. Performance evaluation
- i. Guidance/feedback
- j. Debrief

NOTE: Jacket review required.



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-26	T-45/FC	ACM-01	AIR COMBAT MANEUVERING ONE	1.1

Brief:

- a. QOD
- b. HUD air-to-air mode set
- c. Departure/spin recovery procedures
- d. Spin recovery procedures
- e. Training rules

Introduce: (Offensive Maneuvering)

- a. Communications
- b. Combat spread
- c. Engaging turns
- d. Snap shot drill
- e. Break turn exercise
- f. Low angle to hard counters
- g. Horizontal scissors
- h. Rolling scissors
- i. Sight/lookout doctrine
- j. Aggressiveness
- k. Situational awareness
- l. Training rules

Practice:

- a. Formation activities
- b. Tactical formation
- c. Landing pattern
- d. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-27	T-45/FC	ACM-02	AIR COMBAT MANEUVERING TWO	1.1

Brief:

- a. QOD
- b. Emergencies
- c. Training rules

Practice: (Offensive maneuvering)

- a. Formation activities
- b. Tactical formation
- c. Communications
- d. Combat spread
- e. Engaging turns
- f. Snap shot drill
- g. Break turn exercise
- h. Low angle to hard counters
- i. Horizontal scissors
- j. Rolling scissors
- k. Landing pattern
- l. Touch-and-go landings
- m. Sight/lookout doctrine
- n. Aggressiveness
- o. Situational awareness
- p. Training rules

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-28	T-45/FC	ACM-03X	AIR COMBAT MANEUVERING THREE CHECK	1.1

Brief:

- a. QOD
- b. Emergencies
- c. Training rules
- d. GLOC prevention

Review: (Offensive maneuvering)

- a. Formation activities
- b. Communications
- c. Combat spread
- d. Engaging turns
- e. Snap shot drill
- f. Break turn exercise
- g. Low angle to hard counters
- h. Horizontal scissors
- i. Rolling scissors
- j. Sight/lookout doctrine
- k. Aggressiveness
- l. Situational awareness
- m. Training rules
- n. Field entry/lead
- o. Precautionary approach
- p. Landing pattern
- q. Touch-and-go landings

NOTE: Jacket review required.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-29	T-45/FC	ACM-04	AIR COMBAT MANEUVERING FOUR	1.1

Brief:

- a. QOD
- b. Energy management
- c. Deck awareness
- d. Bugout
- e. Training rules

Introduce: (Defensive maneuvering)

Bugout

Practice:

- a. Formation activities
- b. Communications
- c. Combat spread
- d. Engaging turns
- e. Snap shot drill
- f. Break turn exercise
- g. Low angle to hard counters
- h. Horizontal scissors
- i. Rolling scissors
- j. Sight/lookout doctrine
- k. Aggressiveness
- l. Situational awareness
- m. Training rules
- n. Field entry/lead
- o. Landing pattern
- p. Touch-and-go landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-30	T-45/FC	ACM-05	AIR COMBAT MANEUVERING FIVE	1.1

Brief:

- a. QOD
- b. Training rules
- c. Emergencies

Practice: (Defensive maneuvering)

- a. Formation activities
- b. Communications
- c. Combat spread
- d. Engaging turns
- e. Snap shot drill
- f. Break turn exercise
- g. Low angle to hard counters
- h. Horizontal scissors
- i. Bugout
- j. Rolling scissors
- k. Sight/lookout doctrine
- l. Aggressiveness
- m. Situational awareness
- n. Training rules
- o. Landing pattern
- p. Touch-and-go landings
- q. Field entry/lead

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-31	T-45/FC	ACM-06X	AIR COMBAT MANEUVERING SIX CHECK	1.1

Brief:

- a. QOD
- b. Training rules
- c. Emergencies

Review: (Defensive maneuvering)

- a. Formation activities
- b. Communications
- c. Combat spread
- d. Engaging turns
- e. Snap shot drill
- f. Break turn exercise
- g. Low angle to hard counters
- h. Horizontal scissors
- i. Bugout
- j. Rolling scissors
- k. Sight/lookout doctrine
- l. Aggressiveness
- m. Situational awareness
- n. Training rules
- o. Field entry/lead
- p. Precautionary approach
- q. Landing pattern
- r. Touch-and-go landings

NOTE: Jacket review required.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-32	T-45/FC	ACM-07	AIR COMBAT MANEUVERING SEVEN	1.1

Brief:

- a. QOD
- b. Training rules
- c. Emergencies
- d. 1 circle engagement
- e. 2 circle engagement

Introduce:

- a. 1 V 1 neutral start
- b. Energy management
- c. 1 V 1 unknown start (fuel permitting)

Practice:

- a. Formation activities
- b. Communications
- c. Combat spread
- d. Engaging turns
- e. Snap shot drill
- f. Offensive 1 V 1
- g. Defensive 1 V 1
- h. 1 V 1 one circle (neutral start)
- i. 1 V 1 two circle (neutral start)
- j. Sight/lookout doctrine
- k. Aggressiveness
- l. Situational awareness
- m. Training rules
- n. Field entry/lead
- o. Landings

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-33	T-45/FC	ACM-08	AIR COMBAT MANEUVERING EIGHT	1.1

Brief:

- a. QOD
- b. Training rules
- c. Emergencies
- d. 1 circle engagement
- e. 2 circle engagements

Practice:

- a. Formation activities
- b. Communications
- c. Combat spread
- d. Engaging turns
- e. Snap shot drill
- f. Offensive 1 V 1
- g. Defensive 1 V 1
- h. 1 V 1 one circle (neutral)
- i. 1 V 1 two circle (neutral)
- j. Sight/lookout doctrine
- k. Aggressiveness
- l. Situational awareness
- m. Training rules
- n. Field entry/lead

07-34	T-45/ SOLO	ACM-09	AIR COMBAT MANEUVERING NINE	1.1
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Brief:

- a. QOD
- b. Training rules

Practice:

- a. Combat spread
- b. Engaging turns
- c. Snap shot drill
- d. Offensive 1 V 1
- e. Defensive 1 V 1
- f. 1 V 1 neutral start
- g. Energy management
- h. Aggressiveness
- i. Situational awareness
- j. Training rules



MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-35	T-45/RC	ACM-10	AIR COMBAT MANEUVERING TEN	1.2

Brief:

- a. QOD
- b. Training rules

Introduce:

- a. Prepare for instruction
- b. Flight instruction
- c. Performance evaluation

Practice:

- a. Review student records
- b. Event requirements
- c. Brief
- d. Professional atmosphere
- e. Combat spread
- f. Engaging turns
- g. Snap shot drill
- h. Break turn exercise
- i. Offensive 1 V 1
- j. Defensive 1 V 1
- k. 1 V 1 neutral start
- l. Energy management
- m. Aggressiveness
- n. Situational awareness
- o. Training rules
- p. Introduce/demonstrate techniques
- q. Guidance/feedback
- r. Safety
- s. Debrief
- t. Grades assignment

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-36	T-45/FC	ACM-11X	AIR COMBAT MANEUVERING ELEVEN CHECK (LEAD)	1.2

Brief:

- a. QOD
- b. Training rules

Practice:

- a. Prepare for instruction
- b. Flight instruction
- c. Performance evaluation

Review:

- a. Review student records
- b. Event requirements
- c. Brief
- d. Professional atmosphere
- e. Combat spread
- f. Engaging turns
- g. Snap shot drill
- h. Break turn exercise
- i. Offensive 1 V 1
- j. Defensive 1 V 1
- k. 1 V 1 neutral start
- l. Energy management
- m. Aggressiveness
- n. Situational awareness
- o. Introduce/demonstrate techniques
- p. Guidance/feedback
- q. Safety
- r. Debrief
- s. Grades assignment

NOTE: Jacket review required.

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-39	T-45/FC	ACM-12	AIR COMBAT MANEUVERING TWELVE	1.2

Brief:

- a. QOD
- b. Training rules

Introduce:

- a. Call bandit exercise
- b. 2 V 1 combat
- c. Counterflow
- d. No switch
- e. Single switch
- f. Multi switch
- g. Section bugout

Practice:

- a. Combat spread
- b. Mutual support
- c. Aggressiveness
- d. Situational awareness
- e. Training rules

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-40	T-45/FC	ACM-13	AIR COMBAT MANEUVERING THIRTEEN	1.2

Brief:

- a. QOD
- b. Training rules

Introduce:

Forward quarter attack

Practice:

- a. Combat spread
- b. Call bandit exercise
- c. 2 V 1 combat
- d. Mutual Support
- e. Counterflow
- f. Single Switch
- g. Multi Switch
- h. Section bugout
- i. Aggressiveness
- j. Situational awareness
- k. Training rules

MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-41	T-45/RC	ACM-14	AIR COMBAT MANEUVERING FOURTEEN (OBSERVED LEAD)	1.1

Brief:

- a. QOD
- b. Training rules

Introduce:

- a. Prepare for instruction
- b. Flight instruction
- c. Performance evaluation

Practice:

- a. Review student records
- b. Event requirements
- c. Brief
- d. Professional atmosphere
- e. Call bandit exercise
- f. Counterflow
- g. Single Switch
- h. Multi Switch
- i. Forward quarter attack
- j. Section bugout
- k. Aggressiveness
- l. Situational awareness
- m. Training rules
- n. Introduce/demonstrate techniques
- o. Guidance/feedback
- p. Safety
- q. Debrief
- r. Grades assignment

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MODULE	MEDIA	SYMBOL	DESCRIPTION	DURATION
07-42	T-45/FC	ACM-15X	AIR COMBAT MANEUVERING FIFTEEN CHECK (LEAD)	1.1

Brief:

- a. QOD
- b. Training rules

Review:

- a. Prepare for instruction
- b. Brief
- c. Flight instruction
- d. Call bandit exercise
- e. Counterflow
- f. Multi Switch
- g. Forward quarter attack
- h. Section bugout
- i. Aggressiveness
- j. Situational awareness
- k. Training rules
- l. Performance evaluation
- m. Guidance/feedback
- n. Debrief

NOTE: Jacket review required.

SECTION II

APPENDIX A

A. IUT TRAINING OBJECTIVES. The T-45C Jet Transition Strike Flight Instructor Training curriculum, is designed to satisfy eight training objectives, which results in the transition of the IUT into a jet aircraft instructor, capable of teaching Navy tactical flying skills. Standards of military decorum expected of all naval officers, as defined in prior training directives, will be observed on a daily basis. The goal of all T-45C flight instructors under training is to meet the appropriate terminal learning objectives within the specified flight hour and calendar day limitations. Upon satisfactory completion of the curriculum, the IUT will be able to fulfill the following task objectives:

1. Aviation. Instruct student naval aviators (SNAs) in controlling the aircraft dual or solo, day and night in various meteorological conditions, and stages of flight as required. Aircraft controls must be maintained while meeting all other objectives.

2. Navigation. Instruct SNAs in maintaining aircraft position within a desired geographical area or along a desired ground track using visually acquired landmarks, aircraft-installed electronic equipment, aeronautical charts, voice communications with controlling agencies, and dead reckoning techniques while complying with Federal Aviation Regulations and standard operating procedures.

3. Communications. Instruct SNAs in communicating clearly with ground facilities and with other aircraft using approved radio procedures, and light, hand, or aircraft maneuvering signals as appropriate.

4. Systems Management. Instruct SNAs in the management of aircraft flight, communications, navigation, and weapons delivery systems as required for successful mission completion.

5. Flight Planning. Instruct SNAs in planning the safe conduct of each flight from preflight to mission completion, considering pilot, aircraft, and weather limitations.

6. Headwork. Ensure SNAs demonstrate understanding of aerodynamics, navigation, communications, systems management, and planning principles by the exercise of sound judgment while accomplishing all training objectives. Compliance with all conditions and standards shall be subordinated to the safety of the aircrew, other personnel, and the aircraft.

7. Instructional Technique. Convey procedural information and associated flying techniques to SNAs utilizing standardized instructional methods. Analyze and critique student performance and direct future progress toward achievement of the strike student curriculum objectives.

8. Aircrew Coordination Training. Ensure an understanding of the concept of aircrew coordination training (ACT), including the seven critical skills associated with ACT. Demonstrate proficiency in ACT behavioral skills.

B. IUT STAGE OBJECTIVES

1. Aircrew Familiarization. After this stage, the IUT will demonstrate competency to instruct SNAs in controlling the aircraft utilizing normal and emergency systems in rudimentary flight maneuvers in the T-45C aircraft.

2. Basic Instruments. After this stage, the IUT will demonstrate competency to instruct SNAs in controlling the aircraft without visual references utilizing the characteristics, theory, and operations of flight instrumentation and its applicability to aircraft control.

3. Radio Instruments. After this stage, the IUT will demonstrate competency to instruct SNAs in operating the aircraft in the high and low IFR environments utilizing instruments, navigation equipment, and communication equipment.

4. Airways Navigation. After this stage, the IUT will demonstrate competency to instruct SNAs in planning a flight terminating away from home base utilizing the high altitude jet structure.

5. Field Carrier Landing Practice(FCLP). After this stage, the IUT will demonstrate competency to instruct SNAs in field carrier landing practice.

6. Formation Flight. After this stage, the IUT will demonstrate competency to instruct SNAs in controlling the aircraft in multi-plane formation flight, rendezvous, maintaining wing position, and flight integrity as leader.

7. Night Familiarization. After this stage, the IUT will demonstrate competency to instruct SNAs in operating the aircraft in normal and emergency modes at night in the following evolution: start, taxi, takeoff, en route navigation, formation, and landing.



8. Operational Navigation. After this stage, the IUT will demonstrate competency to instruct SNAs in flying the aircraft in day visual conditions along a low-level high-speed training route.

9. Air-to-Ground Weapons. After this stage, the IUT will demonstrate competency to instruct SNAs in the conduct of air-to-ground weapons delivery, during visual daylight conditions, during which the student will fly prescribed target patterns. The IUT will instruct the SNA in determining relationships of dive angle, airspeed, and release altitude to weapon trajectory as used in error analysis and successful operation of the armament system.

10. Tactical Formation. After this stage, the IUT will demonstrate competency to instruct SNAs in controlling the aircraft in tactical formation flights under visual conditions.

11. Air Combat Maneuvering. After this stage, the IUT will demonstrate competency to instruct SNAs in flying ACM maneuvers performing offensively and defensively in the multi-plane tactical environment, while maintaining flight integrity in accordance with NATOPS manual, tactical doctrine, and command directives.

12. Out-of-Control Flight. After this stage, the IUT will demonstrate competency to instruct SNAs in recognizing the various phases of out-of-control flight from instrument references, applying the proper recovery controls for an uncontrolled flight situation, and indications of OCF.

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MASTER PUBLICATIONS LIST

1. Individually Issued Materials

TITLE	IDENTIFICATION	DATE	QTY PER IUT	COST EACH
a. T-45C Jet Transition Strike Flight Instructor Training Curriculum.	CNATRAINST 1542.150	8 Aug 02	1	
b. Flight Training Instructions (FTI).	CNAT P-1204 through 1209 & 1221-1224		9	
c. DOD FLIP Publications				
(1) En Route IFR Supplement U.S.			3	\$1.25
(2) En Route High Altitude Chart, U.S. (H1, H2)			6	.60
(3) Terminal High Altitude Instrument Approach Procedures (NW NE SW SE)			8	1.25
d. Single-engine Jet Log	CNATRA-GEN 3760/1		25	.78
e. TRAWING In-Flight Guide	Locally produced/issued			
f. Aviation Training Jacket (ATJ)	CNATRA-GEN 1542/10A		1	.11
g. Pilot Training Summary	CNATRA-GEN 1542/95		1	.005
h. Jacket Review Divider	CNATRA-GEN 1542/66		1	.005
i. Aviation Training Forms are generated by the Training Integrated Management System (TIMS).				

TITLE	IDENTIFICATION	DATE	QTY PER IUT	COST EACH
j. Military Flight Plan	DD-175		20	.005

2. Support Materials

TITLE	IDENTIFICATION	QUANTITY	COST EACH
a. T-45C NATOPS Flight Manual.	NAVAIR A1-T45AC-NFM-000	15	\$17.50
b. T-45A/C NATOPS Flight Manual.	NAVAIR A1-T45AB-NFM-300	15	17.50
c. T-45C NATOPS Pocket Checklist.	NAVAIR A1-T-45AC-NFM-500	15	2.65
d. NATOPS Instrument Flight Flight Manual.	Stock No. 0437LP900109	5	11.50
e. NATOPS General Operating Inst.	OPNAVINST 3710.7S	5	11.50
TOTAL			\$679.75

f. Flight clothing (Identification and quantity listed in CNATRAINST 10126.1D; cost listed in NAVSUP PUB. 4100)

3. Aircraft and Major Training Devices

TITLE	IDENTIFICATION
a. Aircraft	T-45C
b. Instrument Flight Trainer Instrument Simulator	T-45C 2F137
c. Operational Flight Trainer Visual Simulator	T-45C 2F138
d. Training Integration System Curriculum Database/Electronic ATF/ Yellowsheets/Data Collection	T-45C 4E9
e. T45TS Academic Subsystem Electronic Classroom/Learning Center/ Mandarin Course Materials	T-45C 4E10

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