

**NAVAL AIR TRAINING COMMAND**



**NAS CORPUS CHRISTI, TEXAS  
CIN Q-2A-0417, Q-2A-0418, Q-2A-0419**

**CNATRAINST 1542.166A  
6 Feb 12**

---

## **CHIEF OF NAVAL AIR TRAINING**



## **T-6B JOINT PRIMARY PILOT TRAINING (JPPT)**

**2012**





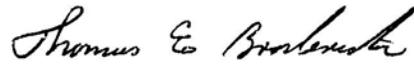
DEPARTMENT OF THE NAVY  
CHIEF OF NAVAL AIR TRAINING  
250 LEXINGTON BLVD SUITE 102  
CORPUS CHRISTI TX 78419-5041

CNATRAINST 1542.166A  
N716  
6 Feb 12

CNATRA INSTRUCTION 1542.166A

Subj: T-6B JOINT PRIMARY PILOT TRAINING (JPPT) COURSE

1. Purpose. To publish the curriculum for training USN, USMC, USCG, USAF, and foreign military student aviators in the T-6B Primary phase of Naval Air Training Command (NATRACOM) flight training.
2. Cancellation. CNATRAINST 1542.166 will be canceled when the last student enrolled completes the curriculum.
3. Action. This instruction is effective on receipt. No changes will be made without the written authorization by the Chief of Naval Air Training (CNATRA).
4. Forms. The CNATRA forms required by this instruction are automated in the Training Integration Management System (TIMS) computer program. Additional CNATRA forms are available on the CNATRA website <https://www.cnatra.navy.mil/pubs/forms.htm>.

  
THOMAS E. BRODERICK  
Chief of Staff

Distribution:  
CNATRA Website

CNATRAINST 1542.166A  
6 Feb 12

BLANK PAGE

LIST OF EFFECTIVE PAGES

Original

Total number of pages is 226 consisting of the following:

<u>Page Number</u>	<u>Issue</u>
Letter - 2.....	0
3/(4 blank).....	0
i - iv.....	0
v/(vi blank).....	0
vii - xii.....	0
xiii/(xiv blank).....	0
xv - xxiv.....	0
xxv/(xxvi blank).....	0
I-1 - I-4.....	0
I-5/(I-6 blank).....	0
I-7 - I-30.....	0
II-1 - II-6.....	0
III-1/(III-2 blank).....	0
IV-1 - IV-44.....	0
IV-45/(IV-46 blank).....	0
V-1 - V-32.....	0
VI-1 - VI-16.....	0
VII-1 - VII-28.....	0
VIII-1/(VIII-2 blank).....	0
IX-1 - IX-32.....	0
IX-33/(IX-34) .....	0

CNATRAINST 1542.166A  
6 Feb 12

BLANK PAGE

TABLE OF CONTENTS

	<u>PAGE</u>
<u>SUMMARY OF CHANGES</u> .....	v
<u>COURSE DATA</u> .....	vii
<u>ABBREVIATIONS</u> .....	xv
<u>GLOSSARY</u> .....	xxi
 <u>CHAPTER I. GENERAL INSTRUCTIONS</u>	
SYLLABUS MANAGEMENT .....	I-1
TRAINING MANAGEMENT .....	I-3
T-6B JPPT COMPLETE COURSE FLOW .....	I-4
T-6B JPPT FLIGHT/DEVICE COURSE FLOW .....	I-5
T-6B USN/USMC STRIKE TOP-OFF COURSE FLOW .....	I-7
T-6B AF FORMATION TOP-OFF COURSE FLOW .....	I-7
UNSATISFACTORY PERFORMANCE .....	I-8
TRAINING REVIEW BOARD .....	I-10
INSTRUCTOR CONTINUITY .....	I-11
BREAK IN TRAINING WARMUP EVENTS (SXX86) .....	I-11
ADDITIONAL FLIGHTS/SIMULATORS .....	I-14
STUDENT MONITORING STATUS .....	I-15
GROUND TRAINING AND BRIEFING REQUIREMENTS .....	I-15
MISSION GRADING PROCEDURES AND EVALUATION POLICIES ..	I-17
JPPT PROGRESS CHECK TRAINING REVIEW PROCESS .....	I-27
SPECIAL INSTRUCTIONS AND RESTRICTIONS .....	I-28
 <u>CHAPTER II. GROUND TRAINING</u>	
ADMINISTRATION/INDOCTRINATION (G01) .....	II-1
SYSTEMS (SY01/2/3) .....	II-3
OPERATING PROCEDURES (PR01) .....	II-5
COURSE RULES (G02) .....	II-6
 <u>CHAPTER III. NATOPS TRAINING</u>	
DOES NOT APPLY .....	III-1

CHAPTER IV. CONTACT TRAINING

PRE-SOLO TRAINING PHILOSOPHY .....	IV-1
PATTERN TRAINING .....	IV-1
NAVIGATION .....	IV-1
SEATING .....	IV-1
HUD .....	IV-1
MATRICES .....	IV-1
CONTACT STAGE MIF .....	IV-2
CONTACT FLIGHT PROCEDURES 1 (C11) .....	IV-7
CONTACT FLIGHT PROCEDURES 2 (C12) .....	IV-8
CONTACT FLIGHT 0 (C13) .....	IV-9
CONTACT COCKPIT PROCEDURES (C21) .....	IV-10
CONTACT EMERGENCY PROCEDURES TRAINER (C22) .....	IV-12
CONTACT (C31) .....	IV-15
DAY CONTACT (C41) .....	IV-18
CONTACT (C32) .....	IV-21
DAY CONTACT (C42) .....	IV-24
DAY CONTACT (C43) .....	IV-27
MIDPHASE CONTACT CHECK FLIGHT (C44) .....	IV-30
CONTACT SOLO FLIGHT (C45) .....	IV-32
CONTACT (C33) .....	IV-34
DAY CONTACT (C46) .....	IV-37
FINAL CONTACT CHECK FLIGHT (C47) .....	IV-40
FINAL CONTACT SOLO (C48) .....	IV-42
NIGHT CONTACT (C49) .....	IV-44

CHAPTER V. INSTRUMENT TRAINING

MATRICES .....	V-1
BASIC INSTRUMENTS STAGE MIF .....	V-1
RADIO INSTRUMENTS STAGE MIF .....	V-2
USN/USMC STRIKE TOP-OFF INSTRUMENT NAVIGATION STAGE MIF .....	V-3
INSTRUMENTS (IN11/2/3) .....	V-4
BASIC INSTRUMENTS (I21) .....	V-6
BASIC INSTRUMENTS (I22) .....	V-8
RADIO INSTRUMENTS (I31) .....	V-10
RADIO INSTRUMENTS (I41) .....	V-13
RADIO INSTRUMENTS (I32) .....	V-16
RADIO INSTRUMENTS (I42) .....	V-19
INSTRUMENT NAVIGATION (I33) .....	V-22
INSTRUMENT NAVIGATION (I43) .....	V-24
INSTRUMENT CHECK FLIGHT (I44) .....	V-27

INSTRUMENT NAVIGATION USN/USMC STRIKE  
TOP-OFF (I45) .....V-30

CHAPTER VI. NAVIGATION TRAINING

SEATING .....VI-1  
HUD .....VI-1  
MATRICES .....VI-1  
NAVIGATION MIF .....VI-2  
LOW-LEVEL MIF .....VI-3  
NAVIGATION (VFR) (NA11/LL11) .....VI-4  
DAY NAVIGATION (N31) .....VI-5  
NIGHT NAVIGATION (N32) .....VI-7  
DAY NAVIGATION (N41) .....VI-9  
NIGHT NAVIGATION (N42) .....VI-11  
LOW-LEVEL (L31) .....VI-13  
LOW-LEVEL (L41) .....VI-15

CHAPTER VII. FORMATION TRAINING

SEATING .....VII-1  
HUD .....VII-1  
MATRICES .....VII-1  
FORMATION STAGE MIF .....VII-1  
AF FORMATION TOP-OFF STUDENT SYLLABUS MANAGEMENT ...VII-3  
USN/USMC STRIKE TOP-OFF, TACTICAL FORMATION  
STAGE MIF .....VII-3  
AF FORMATION TOP-OFF STAGE MIF .....VII-3  
FORMATION (F11) .....VII-6  
TACTICAL FORMATION (F12) .....VII-7  
AF FORMATION (F13) .....VII-8  
FORMATION (F31) .....VII-9  
FORMATION (F41) .....VII-11  
FORMATION (F42) .....VII-14  
FORMATION SOLO FLIGHT (F43) .....VII-17  
TACTICAL FORMATION (F44) .....VII-19  
AF FORMATION (F45) .....VII-22  
AF FORMATION CHECK FLIGHT (F46) .....VII-26

CHAPTER VIII. TACTICAL TRAINING

DOES NOT APPLY .....VIII-1

CHAPTER IX. COURSE TRAINING STANDARDS

PURPOSE .....IX-1  
STUDENT DUTIES AND RESPONSIBILITIES .....IX-1  
GENERAL STANDARDS .....IX-1  
EXECUTION .....IX-2  
JOB TASKS .....IX-2  
GRADED ITEMS .....IX-2  
COURSE TRAINING STANDARDS .....IX-3



CNATRAINST 1542.166A  
6 Feb 12

BLANK PAGE

COURSE DATA

1. Course Title. T-6B Joint Primary Pilot Training (JPPT).
2. Course ID Number (CIN). T-6B JPPT, Q-2A-0417; USN/USMC Strike Top-off, Q-2A-0418; and Air Force Formation Top-off, Q-2A-0419.
3. Locations. NAS Corpus Christi and NAS Whiting Field.
4. Course Status. Active.
5. Course Mission. JPPT is designed to qualify graduates for follow-on advanced flight training and to prepare them for their future responsibilities as military officers.
6. Prerequisite Training. Successful completion of Navy Aviation Preflight Indoctrination Curriculum, Q-9B-0020. USAF students must complete Initial Flight Screening (IFS) and USAF-approved medical screening. Strike Top-off training requires successful completion of T-6B JPPT and selection for USN/USMC Strike Training. Air Force Formation Top-off training requires successful completion of T-6B JPPT.
7. Security Clearance Requirements. None.
8. Follow-on Training. Assigned by the graduate's parent service.
9. Course Length. Overall time to train is calculated in accordance with CNATRAINST 1550.6E. Training Days account directly or provide margin for factors including weather, personnel and equipment availability, briefing and preparation time, and historical delays. Calendar Weeks further account for weekends, holidays, safety standdowns, and other expected nonworking days throughout the year.

	<u>Training Days</u>	<u>Calendar Weeks</u>
a. Primary: TW-4:	123.0	27.3
TW-5:	123.6	27.4
b. USN/USMC Strike Top-off:	13.0	2.9
c. AF Formation Top-off:	13.0	2.9

10. Class Capacity. Variable.
11. Instructor Requirements. As established by Chief of Naval Operations (CNO) planning factors.
12. Course Curriculum Model Manager. Commander Training Air Wing FIVE (COMTRAWING FIVE).
13. Quota Management Authority. Chief of Naval Air Training.
14. Quota Control. CNO.
15. Course Training Subjects
  - a. Ground Training
    - (1) Initial Ground Training

<b>ADMINISTRATION</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
Check-In	G0101	6.0
Checkout	G0109	0.5
<b>Totals</b>		6.5

<b>GROUND TRAINING</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
Ejection Seat/Egress Procedures/ Aeromedical Aspects of Ejection	G0102	2.0
Aviation Safety Program	G0103	1.0
GLOC/GTIP	G0104	0.5
Crew Resource Management	G0105	2.0
Airsickness Awareness	G0106	1.0
Wheels Watch	G0107	2.0
TIMS/Curriculum Review	G0108	2.0
T-6B Aircraft Systems 1	SY0101-16	24.1
T-6B Aircraft Systems 1 Exam	SY0190	1.5
T-6B Aircraft Systems 2	SY0201-12	13.9
T-6B Aircraft Systems 2 Exam	SY0290	1.5
FMS Trainers	SY0301-2	4.0
Operating Procedures	PR0101-12	16.5
Course Rules	G0201	4.5
Course Rules Exam	G0290	1.0
<b>Totals</b>		<b>77.5</b>

(2) USN/USMC Strike Top-off Ground Training

<b>USN/USMC STRIKE TOP-OFF ADMINISTRATION</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
Checkout	G0110	0.5
<b>Totals</b>		<b>0.5</b>

(3) AF Formation Top-off Ground Training

<b>AF FORMATION TOP-OFF ADMINISTRATION</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
Checkout	G0110	0.5
<b>Totals</b>		<b>0.5</b>

b. Flight Support

(1) Initial Flight Support

<b>INITIAL FLIGHT SUPPORT</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
Contact Flight Procedures 1	C1101-7	9.4
Contact Exam 1	C1190	1.0
Contact Flight Procedures 2	C1201-8	9.6
Contact Exam 2	C1290	1.0
Night Procedures	C1209	0.8
Safe-for-Solo	C1210	1.0
Contact Flight 0	C1301	3.0
Basic Instruments Flight Procedures	IN1101-6	7.4
Radio Instruments Flight Procedures	IN1201-14	22.6
Instrument Navigation Procedures	IN1301-7	15.0
Instruments Exam	IN1390	2.0
Navigation VFR Flight Procedures	NA1101-6	7.8
VFR Navigation Exam	NA1190	1.0
Low-Level Navigation/Planning	LL1101-2	4.5
Low-Level Exam	LL1190	1.0
Formation Procedures	F1101	4.5
Formation Exam	F1190	1.0
<b>Totals</b>		92.6

(2) USN/USMC Strike Top-off Flight Support

<b>USN/USMC STRIKE TOP-OFF FLIGHT SUPPORT</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
Tactical Formation Flight Procedures	F1201	1.5
Tactical Formation Exam	F1290	1.0
<b>Totals</b>		2.5

(3) Air Force Formation Top-off Flight Support

<b>AIR FORCE FORMATION TOP-OFF FLIGHT SUPPORT</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
Air Force Formation Flight Procedures	F1301	3.0
Air Force Formation Exam	F1390	1.0
<b>Totals</b>		<b>4.0</b>

c. Flight Training. The programmed times for each phase, stage, and media are:

(1) Initial Flight Training

<b>INITIAL FLIGHT TRAINING</b>								
<b>Flight/Events</b>	<b>UTD</b>		<b>OFT</b>		<b>T-6B</b>			
	<b>Flts</b>	<b>Hrs</b>	<b>Flts</b>	<b>Hrs</b>	<b>Dual</b>		<b>Solo</b>	
					<b>Flts</b>	<b>Hrs</b>	<b>Flts</b>	<b>Hrs</b>
Day Contact	5	6.5	7	9.1	18	29.4	2	3.0
Night Contact					1	1.5		
Instruments	7	9.1	13	16.9	14	23.0		
Day Navigation			1	1.3	1	1.7		
Night Navigation			1	1.3	1	1.7		
Low-level			1	1.3	2	3.2		
Formation			1	1.3	7	11.2	1	1.6
<b>Totals</b>	<b>12</b>	<b>15.6*</b>	<b>24</b>	<b>31.2</b>	<b>44</b>	<b>71.7</b>	<b>3</b>	<b>4.6</b>

\*Table does not include two academic UTD events (totaling 2.0 hrs).

(2) USN/USMC Strike Top-off Flight Training

USN/USMC STRIKE TOP-OFF FLIGHT TRAINING				
Flight/Events	UTD Flts Hrs	OFT Flts Hrs	T-6B	
			Dual Flts Hrs	Solo Flts Hrs
Instrument Navigation			2 3.0	
Tactical Formation			4 6.0	
<b>Totals</b>			<b>6 9.0</b>	

(3) Air Force Formation Top-off Flight Training

AIR FORCE FORMATION TOP-OFF FLIGHT TRAINING				
Flight/Events	CPT Flts Hrs	SIM Flts Hrs	T-6B	
			Dual Flts Hrs	Solo Flts Hrs
AF Formation			6 9.7	
<b>Totals</b>			<b>6 9.7</b>	

16. Training Preparation Time. In addition to the hours formally planned for classes, simulators, and flights, significant additional time to prepare and study should be expected outside of scheduled training hours. This range will vary depending on the complexity of the material and individual student needs, and may be up to several hours per event. For simulator and flight events, specific brief and taxi times will be programmed into TIMS and accounted for on the flight schedule, per the following table:

ADDITIONAL FORMAL TRAINING TIME PER EVENT			
Training Area	Brief/ Preflight/ Taxi	Taxi/ Debrief	Total
Flight	1.75	1.00	2.75
Simulator/UTD	0.50	0.50	1.00

17. Physical Requirements. As specified in the Manual of the Medical Department, Chapter 15, and all applicable anthropometric standards.
18. Obligated Service. Refer to MILPERSMAN for Naval personnel or to AFI 36-2107 for USAF personnel.
19. Primary Instructional Methods. Lecture, CAI, self- and group-paced study, simulator, and in-flight instruction.
20. Preceding Curriculum Data. None.
21. Student Performance Measurement/Application of Standards. The standards outlined in Chapter IX, Course Training Standards, are used to evaluate student performance of individual items and maneuvers. Final judgment regarding the satisfactory performance of any flight maneuver rests with the instructor pilot who must assess the environmental and systems factors affecting the conditions under which the performance is measured.

CNATRAINST 1542.166A  
6 Feb 12

BLANK PAGE

ABBREVIATIONS

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

AF	- Air Force
AFFP	- Air Force Formation Flight Procedures
AFI	- Air Force Instruction
AGL	- Above Ground Level
AGSM	- Anti-Gravity Straining Maneuver
AIM	- Aeronautical Information Manual
ALSS	- Aviation Life Support System
AOA	- Angle of Attack
AOB	- Angle of Bank
ASI	- Aviation Student Indoctrination
ASR	- Airport Surveillance Radar
ATC	- Air Traffic Control
ATF	- Aviation Training Form
ATIS	- Automated Terminal Information Service
ATJ	- Aviation Training Jacket
ATS	- Aviation Training Summary or Approach Turn Stall
AWOS	- Automated Weather Observing System
BAC	- Basic Approach Configuration
BASH	- Bird/Animal Strike Hazard
BAW	- Basic Airwork
BFI	- Backup Flight Instrument
CAI	- Computer-Assisted Instruction
CDI	- Course Deviation Indicator

CFS - Canopy Fracturing System  
CNATRA - Chief of Naval Air Training  
CNO - Chief of Naval Operations  
CO - Commanding Officer  
CRM - Crew Resource Management  
CTS - Course Training Standard  
DCON - Day Contact  
DCONFP - Day Contact Flight Procedures  
DH - Decision Height  
DME - Distance Measuring Equipment  
DOR - Drop on Request  
ELP - Emergency Landing Pattern  
EOB - End of Block  
EP - Emergency Procedure  
EPT - Emergency Procedures Trainer  
EST - Ejection Seat Trainer  
ET - Extra Training  
FAF - Final Approach Fix  
FAWP - Final Approach Waypoint  
FDC - Flight Data Center  
FDO - Flight Duty Officer  
FF - Flying Fundamentals  
FFP - Formation Flight Procedures  
FIH - Flight Information Handbook  
FLIP - Flight Information Publication

FMS - Flight Management System  
FPC - Final Progress Check  
FSS - Flight Service Station  
FTI - Flight Training Instruction  
GCA - Ground-Controlled Approach  
GLOC - G-Induced Loss of Consciousness  
GPS - Global Positioning System  
GTIP - G-Tolerance Improvement Program  
H/X - Hours per Event  
HEFOE - Hydraulic, Electrical, Fuel, Oxygen, Engine  
HILO - Holding-in-Lieu-of  
HUD - Head-up Display  
IAF - Initial Approach Fix  
IAP - Initial Approach Procedure  
IAW - In Accordance With  
IFR - Instrument Flight Rules  
IFS - Initial Flight Screening  
ILS - Instrument Landing System  
IMC - Instrument Meteorological Conditions  
IMS - International Military Student  
IMSO - International Military Student Officer  
IP - Instructor Pilot  
IPC - Initial Progress Check  
JPATS - Joint Primary Aircraft Training System  
JPPT - Joint Primary Pilot Training

KIAS - Knots Indicated Airspeed  
LOC - Localizer  
LP - Local Procedures  
MAP - Missed Approach Point  
MDA - Minimum Descent Altitude  
MIF - Maneuver Item File  
MIL - Mediated Interactive Lecture  
MOA - Military Operating Area  
NATOPS - Naval Air Training Operating Procedures  
Standardization  
NAVAID - Navigational Aid  
NCONFP - Night Contact Flight Procedures  
NFS - Naval Flight Student  
NM - Nautical Mile(s)  
NOTAMs - Notices to Airmen  
NSS - Navy Standard Score  
NTAP - Notice to Airmen Publication  
OBOGS - On-Board Oxygen Generating System  
OCF - Out-of-Control Flight  
ODO - Operations Duty Officer  
OFT - T-6B Operational Flight Trainer (2F208B)  
OLF - Outlying Field  
OPNAV - Office of the Chief of Naval Operations  
P/P - Pen or Pencil and Paper  
PAR - Precision Approach Radar  
PAS - Phase Aggregate Score

PCL - Power Control Lever  
PEL - Precautionary Emergency Landing  
PEL/P - Precautionary Emergency Landing/Pattern  
PMSV - Pilot Meteorological Information Service  
PPEL - Practice Precautionary Emergency Landing  
PR - Procedures  
RDO - Runway Duty Officer  
RRU - Ready Room Unsatisfactory  
RVFAC - Radar Vectors to Final Approach Course  
SFS - Safe-for-Solo  
SID - Standard Instrument Departure  
SMS - Student Monitoring Status  
SNA - Student Naval Aviator  
SSR - Special Syllabus Requirement  
STAR - Standard Terminal Arrival Route  
SY - Systems  
TAD - Trim Aid Device  
TCAS - Traffic Collision Avoidance System  
TFFP - Tactical Formation Flight Procedures  
TRB - Training Review Board  
TTO - Training Time Out  
UFCP - Up Front Control Panel  
UHF - Ultra High Frequency  
USAF - United States Air Force  
USMC - United States Marine Corps

- USN - United States Navy
- UTD - T-6B Unit Training Device (2F207B)
- VDP - Visual Descent Point
- VFR - Visual Flight Rules
- VHF - Very High Frequency
- VMC - Visual Meteorological Conditions
- VOR - VHF Omnidirectional Range
- XO - Executive Officer

GLOSSARY

1. Advancing X. Completed event within the normal syllabus flow. Excludes events with last characters in the range 84-89.
2. Aviation Training Form. A grade sheet documenting student performance for all categories of training regardless of media, phase, or stage.
3. Aviation Training Jacket. The ATJ is the student's training record. It contains ATFs, calendar card, grade reports, and all other associated training information. It is filed in student control and follows the student through all phases of training.
4. Aviation Training Summary. A tabular sheet listing the MIF and maneuver grades within a training stage.
5. Block of Training. A sequential series of lessons within a training stage sharing an identical MIF. The second numerical character in the lesson designator identifies a block.
6. Check Ride (SXX90). A flight check in any stage of training.
7. Class Advisor. An instructor pilot assigned by the Flight Leader to provide counseling and guidance to a specific class throughout the applicable syllabus.
8. Contact. The stage of training that combines day and night flight familiarization, aerobatic maneuvers, and out-of-control flight procedures.
9. Course of Training. The entire program of preflight, flight, simulation, academics, and officer development conducted in all media during the programmed training days.
10. Course Training Standard. A description of required behaviors and standards of performance for a specific maneuver. These standards are in Chapter IX.
11. Courseware. The technical data, flight training instructions, audio, video, film, CAI, instructor guides, student study guides, and other training material developed to support and implement the syllabus of instruction.

12. Critical Item. Any maneuver coded with a plus sign (+). This symbol indicates the maneuver is required and must be accomplished to the specified standard in that block of training.
13. Deliverables. A CNATRA 1542/1827 (Rev. 4-04) TRB Summary Form, generated by the TRB, which summarizes a specific student's progress in a given syllabus and provides detailed information on the application of JPPT training for that student. Deliverables indicate whether the quality and continuity of training provided was IAW CNATRAINST 1542.166A.
14. Emergency Procedure. Any degradation of aircraft systems or flight conditions requiring pilot action or intervention.
15. End of Block. Last event in block. In order to progress past EOB, the student must meet or exceed MIF on all critical items and all optional items attempted in the block.
16. Extra Training (SXX87). Additional student training flights ordered by the Operations Officer, or higher, in order to make up for Squadron/IP instructional deficiencies.
17. Final Progress Check (SXX89). A special check normally given by the Commanding or Executive Officer. The CO may designate, in writing, FPC duty to a qualified O-4 or above. This designation is only done if the CO or XO is unqualified or unavailable to instruct in the required stage. A satisfactory FPC returns the student to normal syllabus flow. An unsatisfactory FPC results in a TRB.
18. Flight Training Instruction. A CNATRA-approved manual describing flight procedures for each training stage.
19. Hours Per X. The average length for each event (H/X) in a block, rounded to the nearest tenth of an hour.
20. Initial Progress Check (SXX88). A special check given by the Operations Officer or his representative. A satisfactory IPC returns the student to normal syllabus flow. An unsatisfactory IPC results in an FPC.

21. Lesson Designator. All syllabus events have a five- to six-character lesson designator in the following format:

Char	Meaning	Remarks		
1 <sup>st</sup> - 2nd	Stage	C-Contact F-Formation G-Ground I-Instrument IN-Inst Flt Support	L-Low-Level LL-Low-Level Flt Support N-Navigation	NA-Nav Flt Support PR-Operating Procedures SY-Systems
3rd	Media	0-Ground Training 1-Flight Support	2-T-6B UTD 3-T-6B OFT	4-T-6B
4 <sup>th</sup>	Block	Sequential, indicating block within stage.		
5 <sup>th</sup> & 6 <sup>th</sup>	Event/Check & Identifier	Sequential, indicating event within block, or other event types as shown below:		
		84-Adaptation 85-Practice Sim 86-Warmup 87-Extra Training	88-Initial Progress Check 89-Final Progress Check 90-Check Flight/Exam	

22. Maneuver Item File. A listing of required maneuvers and associated proficiency levels for each block of training.

23. Master Syllabus. Chapters I-VIII list all training syllabus activities, prerequisites, and desired training flow for JPPT.

24. Off-Wing Flight. A Contact flight not flown with the student's on-wing.

25. On-Wing. The student's assigned instructor in the Primary stage IAW CNATRAINST 1500.4G.

26. Operating Procedures Manual. A training wing or squadron directive describing standard operating procedures for local fixed-wing aircraft.

27. Outcomes. Potential courses of action following a Progress Check. There are only two basic outcomes:
- a. Pass - Return to training.
  - b. Fail - Proceed with the elimination process/eliminate.
28. Phase of Training. A major division in the course of training.
29. Pink ATF. A standard ATF that is printed on pink paper. The pink ATF is used to denote an unsatisfactory event generating a progress check.
30. Progress Check Pilot. An instructor pilot authorized to administer initial or final progress checks.
31. Ready Room Unsatisfactory. An unsatisfactory grade given for inadequate knowledge of flight procedures, systems, discuss items, emergency procedures, deficient preflight planning, or unofficer-like qualities.
32. Special Syllabus Requirement. One time, ungraded demonstration item(s).
33. Stage of Training. All training of a particular type (Ground, Contact, Instruments, Navigation, Formation) within a phase. The first letter in the lesson designator identifies the stage of each lesson (Example: F4101 is in the Formation stage).
34. Student Monitoring Status. Squadron-initiated status to address substandard student performance.
35. Training Media. JPPT media include aircraft, UTDs, OFTs, ground training, FMS Trainers, and CAI. The first numerical character in the lesson identifier designates the training medium.
36. Training Review Board. A fact-finding board appointed to conduct an administrative review of circumstances and procedures relative to an FPC recommendation for a student's elimination.

37. Warmup Event (SXX86). Additional events given to allow a student to regain a level of proficiency previously demonstrated which has diminished due to an extended break in training.

38. Yellow ATF. A standard ATF that is printed on yellow paper. The yellow ATF is used to denote an unsatisfactory event that does not generate a progress check, except for unsatisfactory events which result in an optional warmup. In this case, the ATF shall be printed on white paper.

CNATRAINST 1542.166A  
6 Feb 12

BLANK PAGE

Chapter I

General Instructions

1. Syllabus Management

a. Distribution. Participating squadron personnel.

b. Interpretation. The syllabus is directive. Should circumstances create situations not covered within the scope of this syllabus, or specific course of action appears to conflict with other directives, consult CNATRA (N71).

c. Deviations. Document all deviations on the event's ATF.

d. Changes. Recommended changes shall be submitted IAW CNATRAINST 1550.6E.

e. Execution. All students execute Chapters II through VII. USN/USMC Strike Top-off and AF Formation Top-off students execute the designated portions of Chapters IV and VII (see flow chart on page I-7).

f. Syllabus Description. T-6B JPPT is flown in the T-6B and is divided into stages. Stages are grouped by like flight training regimes such as Contact, Instrument, Navigation, and Formation. Each stage is subdivided into training blocks. The training blocks consist of a specified number of flights. MIFs identify the minimum acceptable level of performance in relation to the CTS that must be achieved at the completion of each training block.

g. Grade Calculation

(1) Phase Aggregate Score (PAS). An NFS's PAS is a comparative ranking based on the previous population of completers for a specific phase or portion of a phase of aviation training. PAS indicates only NFS performance relative to a normative population of other recent NFSs. Under the JPPT system, PAS is not by itself an indication of whether an NFS has met the criteria necessary for winging or continuation in aviation training. PAS is calculated for each block within a curriculum, for the subset of blocks completed by an NFS still in training (Interim PAS), and for the entire phase.

JPPT SNA Calculations. From a population of previous SNAs, an SNA's PAS is calculated using equation (1), below:

$$SNA\_PAS = 50 + 10 * \left( 0.9 * \frac{S - M1}{S1} + 0.1 * \frac{M2 - NMU}{S2} \right) \quad (1)$$

Where

S - SNA Score

NMU - SNA Number of Marginals and Unsats

M1 - Squadron Average Score

M2 - Squadron Average Number of Marginals and Unsats (NMU)

S1 - Standard Deviation of Squadron Score

S2 - Standard Deviation of Squadron NMU

(2) NSS. NSS is calculated to correct for potential non-normality in the distribution of PAS. NSS is calculated for each block within a curriculum, for the subset of blocks completed by an NFS still in training (Interim NSS), and for the entire phase. NSS is calculated from PAS by using equation (2), below:

$$NSS = 50 + 10 * \left( \frac{PAS - MPAS}{SDPAS} \right) \quad (2)$$

Where

PAS - NFS PAS

MPAS - Squadron Average PAS

SDPAS - Standard Deviation of Squadron PAS

h. Accelerated Students. Students with prior flight time, excluding IFS or IFS equivalent flight time, should be considered accelerated. USAF students will not be accelerated. During the accelerated period, the student may progress to the next block of training once MIF is met within the current block of training. The following criteria will be used as a guideline to decide how long the student will be accelerated:

Private pilot license: C4101-4204

Instrument rating: I2101-2203

I3101-3205

I4101-4204

Squadron commanding officers have the authority to tailor the student's accelerated syllabus based on the student's past flying experience. ATFs for the events not flown will be completed with a note in the remarks section stating

"ACCELERATED - EVENT NOT FLOWN. ATF COMPLETED FOR ADMINISTRATIVE PURPOSES ONLY IAW CNATRAINST 1542.166A."

## 2. Training Management

a. Syllabus Progression. Fly syllabus events within each stage sequentially. Do not start a block without all prerequisites. Students may be in different stages simultaneously. Where applicable, students shall be prepared, and will be eligible, for both a VFR (Contact, Formation, Navigation, or Low-Level) and an Instrument syllabus event. Students must complete all events unless enrolled in an approved accelerated syllabus. The flowcharts on pages I-4, I-5, and I-7 delineate the sequence of flying events and their ground training prerequisites. System training management is designed to facilitate three graded events (flight, simulator, or exam) per SNA per day.

b. Maneuver Continuity. Students must accomplish previously introduced maneuvers frequently enough to ensure maintaining required proficiency.

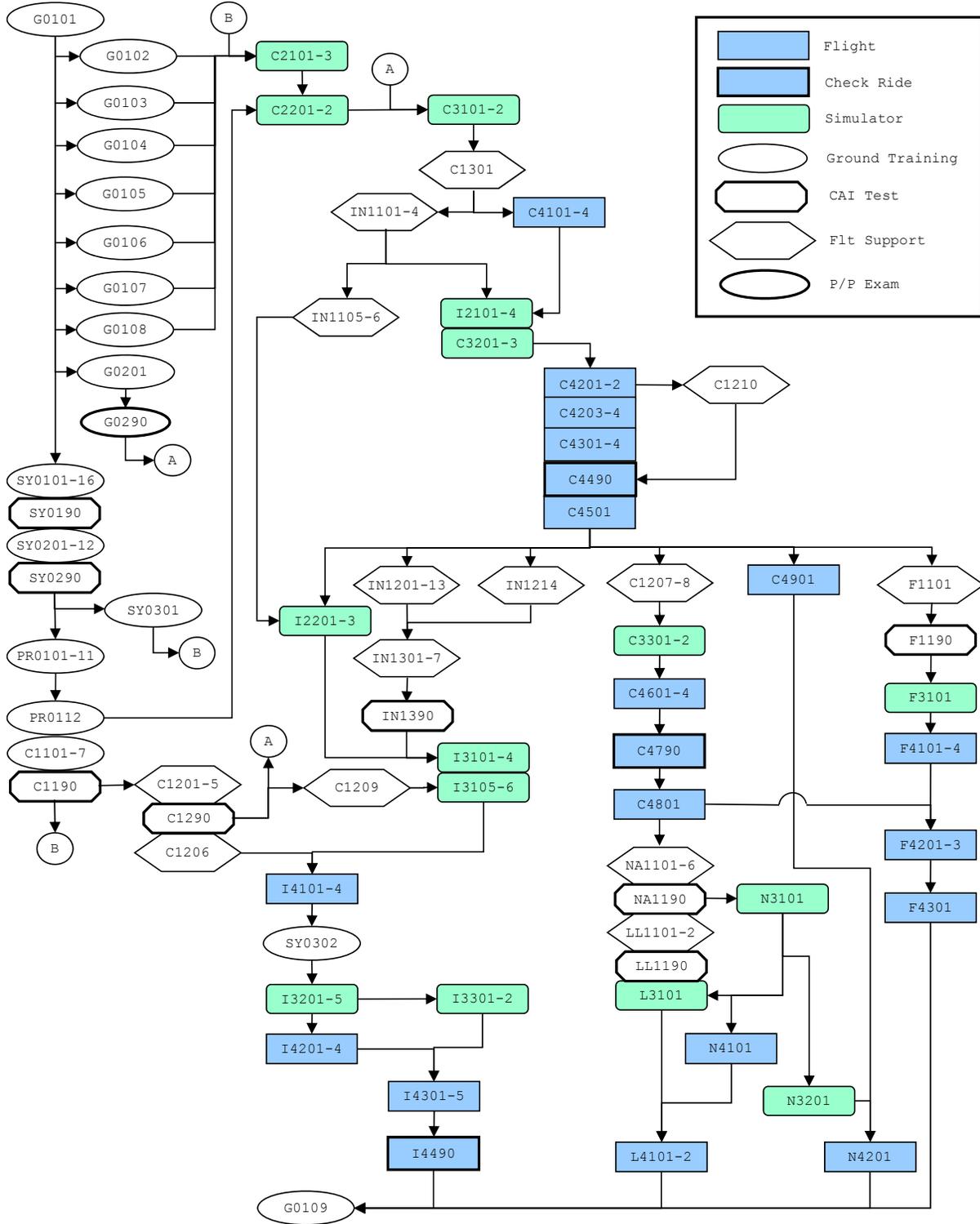
c. Landing Proficiency. Students should land any time they occupy the front cockpit. Students shall not land from the rear cockpit.

d. H/X. Instructor pilots shall plan and execute missions to meet H/X as closely as practical. If actual event length varies from H/X by more than 0.3 hrs, annotate reason(s) in ATF's general comments section. An SNA's deficiency is not an acceptable reason to exceed H/X by more than 0.3 hours.

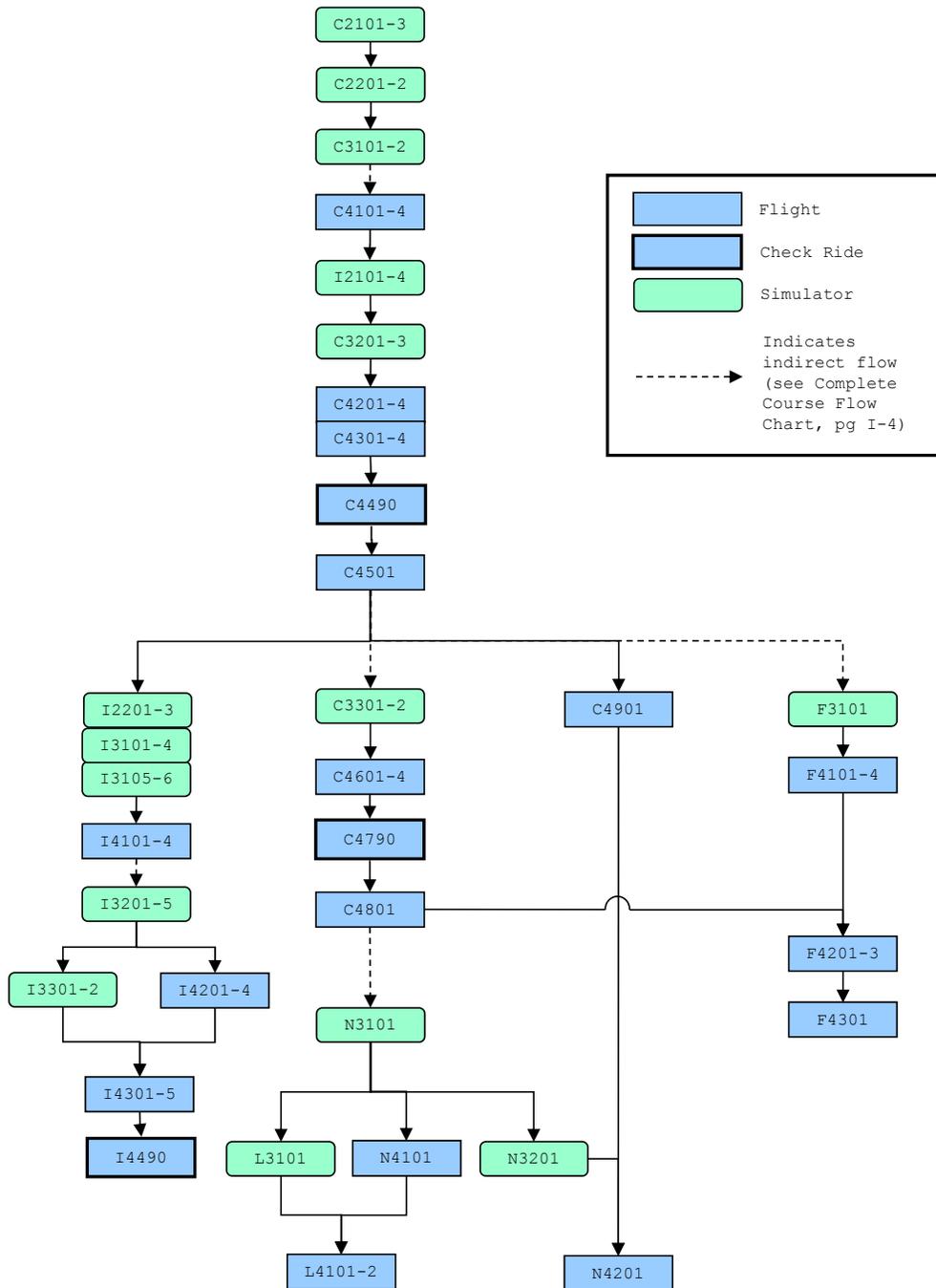
e. Special Syllabus Requirements. The SSRs are allocated to flights. Unless noted otherwise, IPs may accomplish SSRs on any flight within the block. The SSRs shall be completed in the specified block. Annotate completed SSRs in both the ATF's SSR comments section and the TIMS SSR tab. Assign only NG/1 as the SSR maneuver grade.

f. Aviation Training Jacket Reviews. Class Advisors, Flight Leaders, or Assistant Flight Leaders will conduct jacket reviews at least weekly. SMS students require weekly ATJ reviews with their flight leader.

T-6B JPPT COMPLETE COURSE FLOW



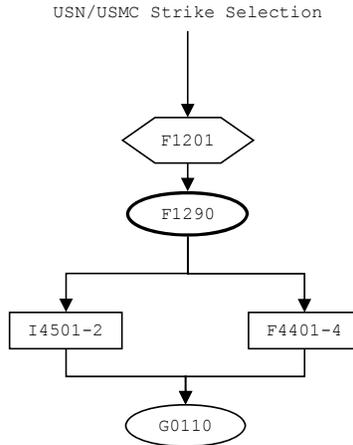
T-6B JPPT FLIGHT/DEVICE COURSE FLOW



CNATRAINST 1542.166A  
6 Feb 12

BLANK PAGE

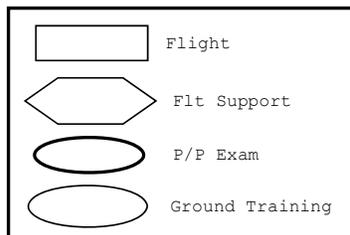
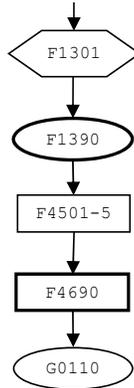
**T-6B USN/USMC STRIKE TOP-OFF COURSE FLOW**



---

**T-6B AF FORMATION TOP-OFF COURSE FLOW**

All USAF Students



3. Unsatisfactory Performance. See **Progress Check Procedures**, Chapter I, paragraph 10c(3).

a. Flight/Simulator

(1) If syllabus events remain in the block, the student shall progress to the next syllabus event, until the second **consecutive** unsatisfactory or third **cumulative** unsatisfactory in the block. Document any unsat event (except warmup event) on a yellow ATF unless a progress check is triggered.

(2) If no syllabus events remain, repeat the last syllabus event in the block until the student meets MIF, the second consecutive unsatisfactory, or the third cumulative unsatisfactory.

(3) An unsatisfactory check ride (SXX90), two consecutive unsatisfactory events, or three cumulative unsatisfactory events (in the same block) will result in an IPC. Document the failed check ride or second consecutive/third cumulative (in block) unsatisfactory event on a pink ATF for that syllabus event.

(4) A subsequent check ride failure, two further consecutive unsatisfactory events, or three more cumulative unsatisfactory events (in block) result in an FPC. Document the subsequent failed check ride, second consecutive/third cumulative (in block) unsatisfactory event on a pink ATF generating the progress check.

(5) Failing an FPC results in a TRB.

(6) Unsatisfactory performance on warmup events does not count toward the cumulative total of unsatisfactory performances used to generate progress checks unless the unsatisfactory performance is in an area not affected by a delay in training such as general knowledge, emergency procedures, and course rules.

(7) Unsatisfactory performance on EOB solo events (C4501, C4801, and F4301) will not be remediated. If necessary, fly a C4587 to meet minimum solo time.

b. Ready Room Unsatisfactory

(1) In no case shall a student who meets the criteria for an RRU proceed to the flight portion of the event.

(2) An RRU on any syllabus event will result in an IPC. Document the RRU on a pink ATF for that event. The event will be marked as incomplete with at least one item on the ATF graded as unsatisfactory. On remediation of unsatisfactory performance, the event will be flown to completion, and general knowledge and emergency procedures will be incorporated into the overall grading solution.

(3) A second or subsequent RRU or failed IPC will result in an FPC. Document the failed IPC on a pink ATF generating the Progress Check.

(4) Failing an FPC will result in a TRB.

c. Academic. Failing two exams triggers an IPC or FPC as appropriate. Academic and ready room unsats are equivalent.

d. Remediation

(1) A dual UTD/OFT or ground evaluation emphasizing the deficient areas may clear an unsatisfactory check ride or EOB syllabus event caused solely by ground operations.

(2) EOB unsatisfactory syllabus events in the Instrument stage may be cleared in the simulator if these conditions are met:

(a) The cause of the unsatisfactory is specific to the maneuver.

(b) The simulator is suited to the failed maneuver.

e. Restrictions. Until remediating the unsatisfactory:

(1) The student shall not fly solo.

(2) The student shall not accomplish any training except academic classes, examinations, and ground training events, provided the unsatisfactory event was not a prerequisite.

4. Training Review Board

a. Scope. Consider the circumstances relevant to the student's training, for example:

(1) Quality of training provided in accordance with applicable FTI.

(2) Continuity of training provided.

(3) Outside influences/extenuating circumstances.

(4) The TRB shall not make elimination/retention recommendations.

b. Composition

(1) Voting Members. The board consists of three voting members, one of whom is the Senior Member. The TRAWING Commander designates the Senior Member in writing. Senior Member shall not be from the parent command.

(2) Other Members/Observers. At least one member will be from the student's parent service. For International Military Students, where possible, include the country liaison officer and the TRAWING IMSO as observers.

(3) Academic Failures. TRBs convened due to academic failures may include one qualified civilian instructor as voting member.

(4) Exclusion. The following conditions exclude an instructor from acting as a voting member on a student's TRB:

(a) The student's on-wing.

(b) Any instructor who has been on a previous TRB for the student.

(c) Any instructor who has awarded an unsatisfactory to the student in the relevant training stage.

(d) The IMSO, in the case of an IMS.

c. Deliverables

(1) A background paper that reflects the TRB majority vote and assesses the student's training quality while highlighting any irregularities.

(2) Use CNATRA 1542/1827 (Rev. 4-04), TRB Summary form.

5. Instructor Continuity

a. Students shall fly Contact syllabus events C4101-4304 with their on-wing. Exceptions:

(1) Students shall fly three events within C4201-4302 off-wing.

(2) The Commanding Officer, Executive Officer, Operations Officer, Flight Leader, or any DCON 'S'-qualified instructor may substitute as on-wing in the event the student's on-wing is not available and an on-wing change is not prudent. In order to maintain instructor continuity, every effort should be made to limit the total number of substitute on-wings.

b. There are no other continuity requirements unless specified by the flight leader for SMS students.

6. Break in Training Warmup Events (SXX86). Nonsyllabus warmup events compensate for breaks in training. Eligibility is based on the number of days since the last flight or simulator in the same stage. All warmups shall be dual and coded as an SXX86 (e.g., C4186). Warmup grades do not satisfy block or MIF requirements and shall not be included in the cumulative totals. Unsatisfactory performance on warmup events does not count toward the cumulative total of unsatisfactory performances used to generate progress checks unless the unsatisfactory performance is in an area not affected by a delay in training such as general knowledge, emergency procedures, and course rules. A student whose performance meets the criteria for an RRU on a warmup shall be given an RRU and initiate progress check procedures. A warmup flight is not warranted between blocks I21XX and I22XX.

6 Feb 12

a. Warmups Between Stages. Warmup events shall not be given prior to the first flight or simulator in stage.

Note: A warmup flight is not warranted between contact/formation stages or contact/radio instrument simulators.

b. Warmup Event Criteria. Optional warmup events are based on the student's performance. If the student's performance meets MIF, the event shall count as the next syllabus event. If a student's performance is marginal or unsatisfactory, the flight is a warmup.

(1) Additional Warmup Events

(a) The Operations Officer may direct additional warmup aircraft or OFT/UTD events for extended breaks in training.

(b) Award an additional safe-for-solo flight if more than five calendar days have elapsed since last safe-for-solo flight.

(2) Not Safe for Solo. If the student is not safe for solo:

(a) Count the flight as a warmup due to the student's loss of proficiency.

(b) The next flight shall be another safe-for-solo check and should be flown in the next six calendar days.

(c) An IPC/FPC shall follow failure of the second safe-for-solo.

CRITERIA FOR AWARDING WARMUP EVENTS		
Break* (Days)	Warmup Events	Remarks
1-6	None	<ul style="list-style-type: none"> <li>● Except solo events (see paragraph 6b(1) (b)).</li> </ul>
7-13	1 Optional	<ul style="list-style-type: none"> <li>● Based on performance.</li> <li>● Required if overall event grade is Marginal or Unsatisfactory.</li> <li>● Prohibited if: <ul style="list-style-type: none"> <li>▶ Performance meets MIF.</li> <li>▶ First event in stage.</li> </ul> </li> </ul>
14	1 Mandatory	<ul style="list-style-type: none"> <li>● May be conducted in the OFT; if warmup conducted in OFT is not followed by a flight within 4 days, a mandatory flight in aircraft shall be conducted.</li> </ul>
	----- 1 Optional	<ul style="list-style-type: none"> <li>● Optional warmup based on performance.</li> <li>● Required if overall event grade is Marginal or Unsatisfactory.</li> </ul>

\*Break = Julian Date - Julian Date last flown.

(3) Extended Training Delays. If the period between events is greater than 30 days, the squadron CO shall determine an appropriate warmup training plan to regain student proficiency IAW CNATRAINST 1500.4G.

(4) Warmup Event Not Required. A warmup event is not required between events within the night contact or navigation blocks of training regardless of the length of delay between events, unless 14 days have elapsed since last flying any flight. In this case, a daytime contact warmup is required.

c. Event Type. Mandatory warmups shall be the last dual event flown in stage; optional warmups shall attempt the next event in stage (i.e., if the SNA is up for C4602 optional warmup following an 8-day break and fails to meet MIF, it shall be coded as a C4686 and the SNA will reattempt the C4602 on the next flight).

7. Additional Flights/Simulators

a. Extra Training Events (SXX87). All ETs shall be coded as SXX87 (e.g., C4187).

(1) ET events include, but are not limited to:

(a) IPC/FPC ET Events. Only award these events to compensate for training inadequacies, e.g., poor event/maneuver continuity, or improper instruction.

1. IPC/FPC 87 events **shall not** be awarded to remediate unsatisfactory student performance unrelated to unit/instructional training inadequacies.

2. Preceding an IPC. The Operations Officer may authorize one ET prior to an IPC.

3. Preceding an FPC. The Commanding Officer may authorize as many as two ETs prior to an FPC.

4. Document the awarding of IPC/FPC 87 events on supplemental ATFs.

(b) International Students. The Operations Officer may authorize additional events to international students IAW CNATRAINST 1500.4G.

(c) Additional Events to Meet Minimum Syllabus Time

1. Events flown to meet minimum night or instrument time shall meet MIF for the block in which the ET is flown.

2. Events flown to meet minimum solo time shall be flown as a C4587.

(2) If the ET does not meet the objectives, the Operations Officer or above decides if an additional event is warranted.

b. Adaptation Events (SXX84). The Operations Officer may grant events required for adaptation to the flying environment when requested by the flight surgeon, e.g., airsickness, eyeglasses, etc.

8. Student Monitoring Status

a. The objective is to focus supervisory attention on a student's progress in training, specific deficiencies, and potential to complete the program. It may also be applied to students who require supervisory attention while trying to resolve personal issues.

b. The Flight Leader will place the student on SMS to address substandard performance in a specific area.

c. SMS is intended as a short-term program. SMS requires the setting of specific goals for removal from SMS or proceeding with the elimination process. SMS goals should be tailored to correct deficiencies as determined by the Flight Leader and Class Advisor or to address personal issues as determined by the Operations Officer. The goals and the required period in SMS must be annotated on CNATRA-GEN form 1542/16 in the student's ATJ.

d. If the student achieves the goals within the SMS period or when personal issues are resolved, the student returns to normal training flow and is removed from SMS. If the student is unable to meet the specific goals of SMS, or performance does not improve, the student shall progress to an IPC or FPC.

e. SMS is not intended to restrict a student's normal scheduling flow.

9. Ground Training and Briefing Requirements

a. Mission Preparation, Briefings, and Debriefings

(1) EOB Events. The IP shall carefully review the ATS in planning the EOB event to ensure the profile includes opportunities to reach MIF on all critical items and optional items attempted in the block.

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

(a) Thorough knowledge of:

1. The flight's discuss items and special syllabus requirements, as listed in Chapters IV-VII.

2. Procedural knowledge of the critical items for the event's training block.

(b) A flight profile tailored to training requirements, weak areas, and continuity.

(3) Briefing. Thoroughly cover the mission's:

(a) Specific objectives.

(b) Required procedures for accomplishing those objectives.

(c) Planned profile and contingencies.

(4) Debriefing

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

(b) Mission complexity and student progress will govern the time required for the debrief.

b. Emergency Procedures Briefing and Training

(1) Emergency procedures training builds the student's confidence in the aircraft. The IP shall conduct emergency procedures training on all dual aircraft events, either on the ground or in the aircraft. Correct procedural deficiencies through additional instruction and study assignments.

(2) Incorporate emergency procedures training into simulator events when practical; however, instructional block objectives take precedence.

(3) Grade the student's overall emergency procedures knowledge and performance under Emergency Procedures.

10. Mission Grading Procedures and Evaluation Policies

a. General Grading and Evaluation Policy. MIFs listed in the JPPT are minimum stage/phase completion standards per maneuver.

b. Grading Procedures (Aircraft and Training Devices)

(1) Absolute Maneuver Grading. Use the following grading scale to document the student's characteristic performance on maneuvers attempted during each dual event. This scale is an absolute grading scale. Judge the student's proficiency **only** against the item's course training standard. Maneuver grades shall be consistent with ATF comments. (See Student Performance Measurement/Application of Standards, page xiii, Course Data, paragraph 21.)

(a) Demonstrated (NG/1 Level). Enter NG:

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

2. For solo flights, where an IP cannot observe individual flight maneuvers.

3. To indicate accomplishing all SSRs for that event. Specify the completed SSRs in the ATF's comments section.

(b) Unable (U/2 Level). Performance is unsafe or lacks sufficient knowledge, skill, or ability. Deviations greatly exceed CTS, significantly disrupting performance. Corrections significantly lag deviations or aggravate the deviations. Student requires constant coaching. A comment is required unless MIF is a U/2 or below.

(c) Fair (F/3 Level). Performance is safe, but with limited proficiency. Deviations exceed CTS, detracting from performance. Corrections noticeably lag deviations, and may not be appropriate. Student requires moderate coaching. EXAMPLE: Using bank angle to compensate for poor rudder trim would be an inappropriate correction for heading deviations.

(d) Good (G/4 Level). Characteristic performance is within CTS. Deviations outside CTS are allowed, provided they are brief, minor, and do not affect safety of flight. Corrections must be appropriate and timely.

(e) Excellent (E/5 Level). Greatly surpasses CTS. Performance is correct, efficient, and skillful. Deviations are very minor. Corrections, if required, are initiated by the student and are appropriate, smooth, and rapid. Student requires no coaching. A comment is always required for a grade of E/5.

(2) Solo Events

(a) Assign NG/1 for performed maneuvers.

(b) IP or RDO may grade maneuvers observed to be either unsafe or exceptional on the solo ATF. These grades shall count toward overall PAS.

(3) Students shall be graded on General Knowledge Procedures, Emergency Procedures, Headwork, and BAW for each completed flight event.

(4) Overall Event Grades. Overall event grades represent the student's progression through JPPT. Grade events "Pass," "Marginal," or "Unsatisfactory." Use the following definitions to characterize event grades. See **Awarding Overall Event Grades** for specific rules defining unsatisfactory performance.

(a) Pass

1. Prior to EOB. Progress is adequate to meet standards by EOB.

2. EOB. The student's performance meets or exceeds standards.

(b) Marginal. Ability to meet the standards by the end of the block is questionable. IPs may not award a Marginal on an EOB event or check flight.

(c) Unsatisfactory. Student exhibits dangerous tendencies or progress towards meeting EOB standards is insufficient.

(5) Awarding Overall Event Grades. The student's overall grade is based on the student's performance against the MIF. The following rules govern overall event grading.

(a) EOB. Performance must meet MIF by EOB. If the student has previously met MIF in the block, he must still meet MIF in the EOB flight if the maneuver is reattempted.

(b) Prior to EOB. Performance must meet/exceed previous block MIF. EXAMPLE:

1. C42 MIF requires an F/3 for takeoff. C43 MIF requires a G/4.

2. The student must meet or exceed F/3 to progress out of C42.

3. The student must maintain or exceed F/3 until the last C43 event, by which time the student must attain G/4.

(c) Exception. Students shall maintain or exceed MIF performance from one block to the next within stage or between media within stage. The exception is when MIF on a subsequent block is below the preceding block MIF. In these cases, the lower MIF applies.

(6) Regression Rules. Regression rules allow for uneven progress through training. Regression rules do not apply to the first simulator or flight block in each stage. Regression is defined as performance below the previous block MIF.

(a) When a specific maneuver/procedure is introduced for the first time in a block, previous block MIF does not exist. **Regression rules do not apply.**

(b) The student is allowed up to two maneuver grades of F/3 where a G/4 is required on previous block MIF, and:

1. The student has previously demonstrated G/4 proficiency when a G/4 was required on previous block MIF.

2. The maneuver was not flown on a check ride/safe-for-solo event.

3. The instructor is satisfied the student is ready to progress to the next event.

(c) The instructor must award an overall unsatisfactory if:

1. Regression was to a U/2 where F/3 or G/4 is required on previous block MIF, or

2. If performance on the same maneuver for two consecutive events resulted in an F/3 where a G/4 is required on previous block MIF, or

3. There was regression on more than two items during one event.

(7) Maneuver Requirements. For each block:

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

(b) Optional Items. Items with a number, but without a plus (+), are optional. However, if flown, the student must meet the required proficiency by EOB.

(c) Not Demonstrated/Not Performed. The IP will not demonstrate, nor will the student perform:

1. Unnumbered items.
2. Items not in the stage.
3. EXCEPTIONS:
  - a. Weather-driven instrument approaches.
  - b. Prebriefed maneuvers for IP proficiency.

(8) Incomplete Events. In general, IPs should consider an event complete if able to accomplish either all high or all low work. This is particularly true when weather precludes one or the other, and the IP is able to emphasize training where weather permits. Subsequent events in the block, when available, can reverse this emphasis, hence achieving overall training balance. If a student has had ample opportunity to learn a task and subsequently flies a short mission, do not incomplete the mission solely to provide unwarranted extra training.

(a) Assessment. This assessment shall be used for flight events and warmup events. Assess the event complete if:

1. Seventy-five percent of the event's H/X was used for training, and
2. Sufficient events remain in the block to redress the imbalance, and
3. Individual maneuvers can still be accomplished within the block.
4. Otherwise, assess the event incomplete.

(b) Completion Events

1. An event may both complete a previous event and count as an advancing X.

2. For events flown exclusively to clear an incomplete, grades on maneuvers repeated from the incomplete event do not count towards the student's PAS.

(c) Simulator Event Completion. Assess a simulator event complete if the student has received a full 1.3-hour training period.

c. Policies for Evaluation Flights and Ground Evaluations

(1) Authorized Evaluators. The squadron commander shall designate check pilots for each stage.

(2) Check Rides (SXX90)

(a) Single Event Training Blocks. Check rides amount to single event training blocks; therefore, all rules regarding progressing out of a block apply, except as noted below:

1. Should fly a representative cross section of optional maneuvers.

2. The entire event should be devoted to assessing the student's ability and readiness to progress to the next stage of training. All maneuvers indicated with a plus (+) are check ride critical and must be accomplished to MIF.  
**Regression rules do not apply.**

3. The student should be able to demonstrate required levels of proficiency without instructor assistance. However, instruction is allowed on check rides and students may reattempt maneuvers at the check pilot's discretion.

(b) Incomplete Check Ride. The check ride shall be incomplete when:

1. Any (+) item was not flown, or

2. The check pilot was unable to sample sufficient examples of a given maneuver to assess the student's overall performance.

Note: The subsequent flight need only include maneuvers required to complete the check.

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

- a. Any critical item is below MIF, or
- b. More than two noncritical items were graded F/3 where G/4 is required, or
- c. Any maneuver is U/2.

Note: Regardless of above exceptions, mission profile/critical items shall be accomplished to the maximum extent possible.

(c) Formation EOB SFS Failure. If the student fails a Formation stage EOB SFS because of unsatisfactory pattern/landing not directly related to the Formation stage, any subsequent ET event may be flown as a Contact event and the resulting progress check may also be a Contact event.

(d) Unsatisfactory Check Ride-Ground Operations. A check ride graded unsatisfactory solely for ground operations requires a progress check. The Operations Officer shall decide whether to perform the progress check as a ground evaluation, in the simulator, or in the aircraft.

(3) Progress Check Procedures

(a) The Progress Check Pilot shall consider the student's proficiency, judgment, situational awareness, and overall ability to maneuver the aircraft safely and confidently. The student must also demonstrate the potential to successfully complete JPPT **and advanced training**. All progress checks must meet MIF for the most recently completed block of training. Progress checks shall be full mission profiles emphasizing the student's weak areas and a representative cross section of area and pattern maneuvers. All critical items do not need to be accomplished. Document failed progress checks on a pink ATF for the failed event generating the progress check.

1. The student's first flight progress check is an IPC (SXX88) event. Any subsequent flight progress check is an FPC (SXX89).

2. Similarly, the first RRU or second academic test failure generates an IPC. A subsequent RRU or academic test failure generates an FPC.

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

1. Criteria for IPC are:

- a. Failed check ride.
- b. Two consecutive or three cumulative unsatisfactory events in the same block, not including XX87 events.
- c. Following an RRU.
- d. Following two academic test failures.

2. Operations Officer or above directed when the student's potential to complete JPPT is in doubt.

3. Outcomes are:

- a. Passing returns the student to normal syllabus flow.
- b. Failing results in an FPC.

4. IPC IPs. The Operations Officer or his representative designated in writing, usually a designated STAN pilot, shall administer the IPC. The IPC shall not be administered by the student's on-wing or the instructor that generated the UNSAT. A qualified IPC IP check pilot shall monitor an IPC conducted in a simulator. The squadron IPC IP is responsible for making a "return to training" or "continue the elimination process" recommendation to the Squadron CO.

(c) FPC. The following defines when to conduct an FPC, FPC outcomes, and FPC IP check pilots.

1. Criteria for an FPC are:

a. Following a failed IPC.

b. If the conditions requiring an IPC exist and the student has already accomplished an IPC.

c. Commanding Officer-directed FPC when the student's potential to complete JPPT and advanced training is in doubt (see paragraph 8d, failure to meet specific goals of SMS). Completion of the training syllabus does not guarantee progression to advanced training. For students who meet minimum standards at the completion of primary training, attrition or an FPC may be required as directed by CNATRAINST 1500.4G.

2. Outcomes are:

a. Passing returns the student to normal syllabus flow.

b. Failing results in an attrition recommendation by the CO to the TRAWING Commander and a subsequent TRB.

3. FPC IPs. The CO, XO, or a CO-designated representative administers the FPC. It is the intent of CNATRA that wherever possible, the CO, or in his absence, the XO, shall conduct FPCs. In the event that neither the CO nor XO are qualified or available to instruct in the required stage, the CO may designate, in writing, a senior officer (O-4 or above) to conduct the FPC by direction. The FPC shall not be administered by the student's on-wing or the instructor that generated the UNSAT. A qualified FPC IP shall monitor an FPC conducted in the simulator. The FPC IP is responsible for an elimination/retention recommendation to the COMTRAWING.

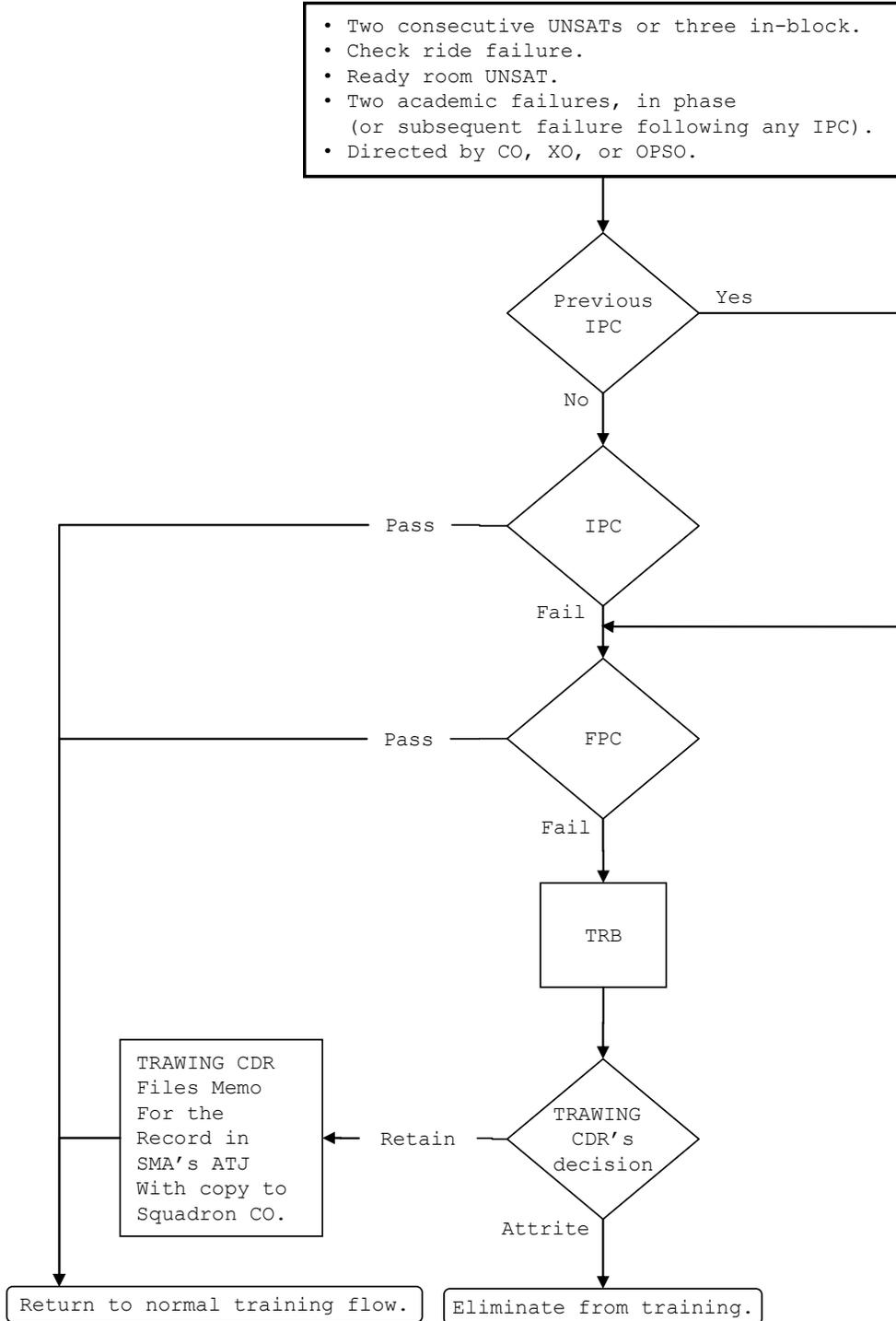
d. Progress Check Counseling

(1) Prior to an Initial Progress Check. The student's Flight Leader, Flight Instructor, or the Operations Officer shall counsel the student on the Progress Check Training Review Process and document counseling on a supplemental ATF.

(2) On Completion of an IPC. The IPC IP or Operations Officer shall counsel the student on the Progress Check Training Review Process. When conducted by the IPC IP, document counseling on the IPC ATF. When conducted by the Operations Officer (and the Operations Officer was not the IPC IP), document counseling on a supplemental ATF.

(3) On Completion of a Final Progress Check. The CO or his designated representative will counsel the student. Counseling should consist of the Progress Check Training Review Process, elimination/retention recommendations, and future courses of action. The CO shall document counseling on the FPC ATF. If conducted by a designated representative, document counseling on a supplemental ATF.

JPPT PROGRESS CHECK TRAINING REVIEW PROCESS



11. Special Instructions and Restrictions

a. Flight Hour/Event Requirements and Restrictions

(1) Programmed Hours and Events. Syllabus-programmed flight hours are 76.3 hours. USN/USMC Strike Top-off students receive an additional 9 hours and AF Formation Top-off students receive an additional 9.7 hours. Event lengths, SXX86, 87, 88, and 89 events will cause variation. Accomplish all syllabus events.

(2) Minimum Night Hours: 10.0 hours (OFT/Aircraft).

(3) Minimum Solo Hours: 3.0 hours.

(4) Maximum Daily Student Activities (Aircraft, Simulator, or Academic). Students shall not exceed three flight, simulator, or exam events during one duty day or three graded activities during cross-country flights. The third event/activity shall not be a solo flight.

(5) Minimum Student Turn-Times. The student must have at least 30 minutes between debriefing one event and briefing a follow-on solo event. One hour is required between debriefing of a dual event and the brief for a follow-on dual event or simulator event. This requirement does not apply to out-and-in or cross-country profiles; however, the instructor shall ensure adequate debrief and brief time is allocated.

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

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

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

c. Maneuver Demonstrations. The student shall not perform a maneuver for the first time until the IP demonstrates the maneuver, unless previous training adequately fulfills this role. This does not apply to simulator events.

d. Airspace Utilization. Conduct contact and formation events in designated areas. These events may be out-and-ins with Operations Officer approval.

e. Solo Restrictions

(1) Documentation. The ATF for the event preceding the solo event must include "Safe for Solo" or "Not Safe for Solo" in the general comments section.

(2) Solo Not Permitted. The student may not fly solo unless the appropriate ATF states "Safe for Solo."

(3) Airsickness. A student who has been actively or passively airsick within the previous event may not fly solo. Where available, use syllabus events to fulfill this requirement; otherwise, use adaptation events.

(4) Maneuvers Allowed. Solos may only perform maneuvers graded F/3 or better on the previous event.

(5) Maneuvers Not Allowed. Solos may not perform spins, stalls, split-S, Immelmann, Cloverleaf, combination maneuver, simulated emergency procedures, or any maneuver not previously introduced.

(6) Currency. Students shall not fly solo unless they have had their safe-for-solo flight within the preceding five calendar days.

(7) Daylight Restriction. Solo students shall not fly solo earlier than sunrise or later than 30 minutes before sunset.

(8) Brief. The Flight/Operations Duty Officer shall brief the solo student. The flight briefing must cover mission profile, objectives, and contingencies.

f. Aircraft/Simulator Interchangeability

(1) Simulator events may be substituted in the aircraft when the UTD/OFT is unavailable for extended periods of time.

(2) Aircraft events may not be substituted in the UTD/OFT.

(3) Any UTD event may be conducted in an OFT.

Chapter II

Ground Training

Blk #	Media	Title	Events	Hrs	Blk Name
G01	Class	Administration/ Indoctrination	10	17.5	ASI

1. Prerequisites

- a. G0101 prior to G0102-8 (any order).
- b. I4490, L4102, N4201, and F4301 prior to G0109.
- c. I4502 and F4404 prior to G0110, USN/USMC Strike Top-off.
- d. F4690 prior to G0110, AF Formation Top-off.

2. Events

G0101	Sqdn	Check-In. Students will check in with Wing, Ground School and Squadron. This block includes Publications Issue and Flight Gear Fitting.		6.0	
G0102	Lect	Ejection Seat/Egress Procedures/Aeromedical Aspects of Ejection		2.0	
G0103	Offline MIL	Aviation Safety Program		1.0	
G0104	Offline MIL	GLOC/GTIP		0.5	
G0105	Offline MIL	Crew Resource Management		2.0	
G0106	Offline MIL	Airsickness Awareness		1.0	
G0107	Offline MIL	Wheels Watch		2.0	
G0108	Offline MIL	TIMS/Curriculum Review		2.0	

2. Events (Cont)

G0109	Sqdn	Checkout	0.5
G0110	Sqdn	USN/USMC Strike and AF Formation Top-off Checkout	0.5

3. Syllabus Notes

a. G0109 is not applicable for USN/USMC Strike-selected or AF Formation Top-off students.

b. G0102 requires the use of an EST and an EPT.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
SY01/2/3	Class	Systems	32	45.0	See Below

1. Prerequisites

- a. G0101 prior to SY0101.
- b. SY0101-16 in order prior to SY0190.
- c. SY0190 prior to SY0201; SY0201-12 in order prior to SY0290.
- d. SY0290 prior to SY0301.
- e. I4104 prior to SY0302.

2. Events

SY0101	MIL	Introduction to T-6B Systems		1.0	SYS1
SY0102	T-6B	Aircraft Systems Tour		1.5	SYS1
SY0103	CAI	Flight Controls		1.2	SYS1
SY0104	CAI	Hydraulic System 1		1.5	SYS1
SY0105	CAI	Hydraulic System 2		1.3	SYS1
SY0106	MIL	Systems Review		1.9	SYS1
SY0107	CAI	Up Front Control Panel		2.0	SYS1
SY0108	CAI	Flight Instruments 1		1.6	SYS1
SY0109	CAI	Flight Instruments 2		1.1	SYS1
SY0110	CAI	Head-Up Display		1.0	SYS1
SY0111	CAI	Communication System		1.8	SYS1
SY0112	CAI	Navigation Systems		1.7	SYS1
SY0113	CAI	UFPC Scenarios		1.0	SYS1
SY0114	CAI	FMS		1.0	SYS1
SY0115	MIL	Systems Review 2		3.5	SYS1
SY0116	UTD	T-6B Cockpit Familiarization 1		1.0	SYS1

2. Events (Cont)

SY0190	CAI Test	Systems 1 Exam	1.5	SYS1
SY0201	CAI	Electrical System	1.2	SYS2
SY0202	CAI	Fuel System	1.0	SYS2
SY0203	MIL	Electrics and Fuel Review	1.4	SYS2
SY0204	CAI	Propulsion 1	1.8	SYS2
SY0205	CAI	Propulsion 2	1.1	SYS2
SY0206	MIL	Propulsion Review	1.5	SYS2
SY0207	CAI	Environmental System 1	0.8	SYS2
SY0208	CAI	Environmental System 2	0.5	SYS2
SY0209	CAI	Canopy System	0.6	SYS2
SY0210	CAI	Ejection System	1.0	SYS2
SY0211	UTD	T-6B Cockpit Familiarization 2	1.0	SYS2
SY0212	MIL	Systems Review 3	2.0	SYS2
SY0290	CAI Test	Systems 2 Exam	1.5	SYS2
SY0301	SS	FMS Trainer 1	2.0	FMS
SY0302	SS	FMS Trainer 2	2.0	FMS

3. Syllabus Note. SY0113 is an optional event.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
PR01	Class	Operating Procedures	12	16.5	PR

1. Prerequisites

- a. SY0290 (Systems 2 Exam).
- b. PR0101-11 in order prior to PR0112.

2. Events

PR0101	MIL	Introduction to Operating Procedures		1.0
PR0102	CAI	Exterior Inspection		1.0
PR0103	CAI	Preflight Checks		1.3
PR0104	CAI	In-flight Checks		0.7
PR0105	CAI	Postflight Checks		0.5
PR0106	MIL	Handling Emergency Procedures		0.9
PR0107	CAI	Takeoff Emergencies		1.0
PR0108	CAI	In-flight Emergencies 1		3.0
PR0109	CAI	In-flight Emergencies 2		2.0
PR0110	CAI	In-flight Emergencies 3		2.5
PR0111	CAI	Aircraft Operating Limitations		0.6
PR0112	Lect	Emergency Procedures Review		2.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G02	Class	Course Rules	2	5.5	CR

1. Prerequisites

- a. G0101 (Check-in).
- b. G0201 prior to G0290.

2. Events

G0201	Offline MIL	Course Rules		4.5	
G0290	P/P Exam	Course Rules Exam		1.0	

3. Syllabus Notes. None.

4. Discuss Items. None.

Chapter III

NATOPS Training

This chapter does not apply to T-6B Primary Flight Training.

CNATRAINST 1542.166A  
6 Feb 12

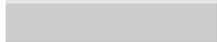
BLANK PAGE

## Chapter IV

### Contact Training

1. Pre-solo Training Philosophy. The fundamental flight skills required of each student in order to safely solo in the T-6B are critical, not only to solo, but also to successfully complete JPPT. Initial instruction should focus on determining the instructional approach best suited for each student's problem areas so that mission profiles can be flown to correct deficient areas.
2. Pattern Training. Utilize the overhead/break traffic pattern as much as possible for pattern training.
3. Navigation. When possible, home and outlying field departures and recoveries should be visual with the assistance of the local area chart and FMS.
4. Seating. Students shall occupy the front seat for all events in the stage.
5. HUD. The HUD shall be used only on events with corresponding SSRs.
6. Matrices. The following matrix is an overview of the entire Contact stage. The purpose of this matrix is to provide the student and IP the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

7. Contact Stage MIF

 Simulator/Device Event  
 Check Flight Event

CONTACT STAGE MANEUVER ITEM FILE															
CTS REF	MANEUVER	C2103	C2202	C3102	C4104	C3203	C4204	C4304	C4490	C4501	C3302	C4604	C4790	C4801	C4901
1	General Knowledge/ Procedures	3+	3+	3+	3+	3+	3+	4+	4+	4	4+	4+	4+	4	4+
2	Emergency Procedures	3+	3+	3+	3+	3+	3+	4+	4+	4	4+	4+	4+	4	4+
3	Headwork/ Situational Awareness		2	2+	2+	2+	3+	3+	3+	3	3+	4+	4+	4	4+
4	Basic Airwork	2	2	2+	3+	3+	3+	4+	4+	4	4+	4+	4+	4	4+
5	In-flight Checks/Fuel Management	2+	2+	2+	3+	3+	3+	4+	4+	4	4+	4+	4+	4	4+
6	In-flight Planning/Area Orientation			2+	2+	2+	3+	3+	3+	3	3+	4+	4+	4	4+
N	Abort Start	3+													
N	Fire Warning on Ground (Fire Annunciator Illuminated)	3+													
N	Emergency Engine Shutdown	3+													
N	Emergency Ground Egress	3+													
N	Abort Takeoff	3+													

MIF continued on next page.

CONTACT STAGE MANEUVER ITEM FILE															
CTS REF	MANEUVER	C2103	C2202	C3102	C4104	C3203	C4204	C4304	C4490	C4501	C3302	C4604	C4790	C4801	C4901
N	Aircraft Departs Prepared Surface	3+													
N	Engine Failure Immediately After Takeoff		2+												
N	Engine Failure During Flight		2+												
N	PMU NORM Airstart		2+												
N	PMU OFF Airstart		2												
N	Uncommanded Prop Feather		2+												
N	Immediate Airstart		2+												
N	Uncommanded Power Changes/LOP		2+												
N	Fire Warning in Flight (Fire Annunciator Illuminated)		2+												
N	Smoke and Fume Elimination		2												
N	PMU Failure		2												
N	Chip Detector Warning		2+												

MIF continued on next page.

CONTACT STAGE MANEUVER ITEM FILE															
CTS REF	MANEUVER	C2103	C2202	C3102	C4104	C3203	C4204	C4304	C4490	C4501	C3302	C4604	C4790	C4801	C4901
N	Oil System Malfunction or Low Oil Press		2+												
N	Electrical Failures		2												
N	Avionics Failures		2												
N	Fuel System Failures		2+												
N	Hydraulic System Failures		2+												
N	OBOGS System Fail		2+												
N	Trim System Malfunctions		2+												
N	Controlled Ejection		2+												
N	Uncontrolled Ejection		2+												
N	Precautionary Emergency Landing		2+												
N	Landing Gear Emergency Extension		2+												
7	Task Management		2	2+	2+	3+	3+	3+	3+	3	3+	4+	4+	4	4+
8	Communication	2	2	2+	2+	2+	3+	4+	4+	4	4+	4+	4+	4	4+

MIF continued on next page.

CONTACT STAGE MANEUVER ITEM FILE															
CTS REF	MANEUVER	C2103	C2202	C3102	C4104	C3203	C4204	C4304	C4490	C4501	C3302	C4604	C4790	C4801	C4901
9	Mission Planning/ Briefing/ Debriefing	2	2	2	2+	2+	3+	4+	4+	4	4+	4+	4+	4	4+
10	Ground Operations	2+	2+	2+	3+	3+	3+	4+	4+	4	4	4+	4+	4	4+
11	Takeoff			2+	3+	3+	3+	4+	4+	4	4+	4+	4+	4	4+
12	Departure			2+	3+	3+	3+	4+	4+	4	4	4+	4+	4	4+
13	G-Awareness/ Exercise				2+	2	3+	4+	4+	4	4	4+	4+	4	
14	Turn Pattern			2+	3+	3	3	4	4	4					3+
15	Level Speed Change			2+	3+	3	3	4	4	4					3+
16	Slow Flight			2	3+	3	3	3	3						
17	Power-On Stalls			2+	2+	2	3+	4+	4+		4	4+	4+		
18	Landing Pattern Stalls			2+	2+	2	3+	4+	4+		4	4+	4+		
19	Emergency Landing Pattern Stalls			2+	2+	2	3+	4+	4+		4	4+	4+		
20	Spin			2+	2	2+	3+	3+	3+		3	4+	4		
21	Contact Unusual Attitudes			2	2	2+	2+	3+	3+		3	4+	4+		
22	Loop										2+	3+	3+	3	
23	Aileron Roll										2+	3+	3+	3	
24	Split-S										2+	3+	3		
25	Barrel Roll										2+	3+	3+	3	
26	Cloverleaf										2+	3+	3		

MIF continued on next page.

CONTACT STAGE MANEUVER ITEM FILE															
CTS REF	MANEUVER	C2103	C2202	C3102	C4104	C3203	C4204	C4304	C4490	C4501	C3302	C4604	C4790	C4801	C4901
27	Immelmann										2+	3+	3		
28	Cuban Eight										2+	3+	3+	3	
29	Wingover										2+	3+	3+	3	
30	Slip			2	2	2+	3+	3+	3		3	3	3		
31	Power Loss			2	2	2+	2+	3+	3		3+	3+	3+		
32	Precautionary Emergency Landing			2	2	2+	2+	3+	3+		3+	3+	3		3+
33	PEL/P			2	2	2+	2+	3+	3+		3+	3+	3+		3+
34	ELP Landing			2	2	2+	2+	3+	3+		3+	3+	3+		3+
35	Arrival/ Course Rules			2	2+	2+	3+	3+	3+	3	3	4+	4+	4	3+
36	Landing Pattern			2+	2+	2+	3+	4+	4+	4	4	4+	4+	4	4+
37	No-Flap Landing			2+	2+	2	2+	3+	3+	3	3	4+	4	4	3+
37	Takeoff Flap Landing			2+	2+	2	2+	3+	3+	3	3	4+	4	4	3+
37	LDG Flap Landing			2+	2+	2	2+	3+	3+	3	3	4+	4	4	3+
37	Full-stop Landing			2+	2+	2+	2+	3+	3+	3	3	4+	4+	4	3+
38	AOA Pattern										2	3+	3		
39	Waveoff			2+	2+	2+	3+	4+	4+	4	4	4+	4+	4	4
	Special Syllabus Requirements	1	1	1	1	1	1	1			1	1			

Blk #	Media	Title	Events	Hrs	Blk Name
C11	CAI/MIL	Contact Flight Procedures 1	8	10.4	Contact

1. Prerequisites

- a. PR0112 (Emergency Procedures Review).
- b. C1101-7 in order prior to C1190.

2. Events

C1101	CAI	TOLD Computations		1.0	
C1102	CAI	Clearing, Cross-check, and Basic Flight		1.6	
C1103	CAI	Taxi and Takeoff		1.3	
C1104	CAI	Departure and Climb		0.5	
C1105	CAI	Traffic Patterns		2.0	
C1106	CAI	Landing		1.0	
C1107	MIL	Contact Review 1		2.0	
C1190	CAI	Contact Exam 1		1.0	
		Test			

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
C12	CAI/MIL	Contact Flight Procedures 2	11	12.4	See Below

1. Prerequisites

- a. C1190 (Contact Exam 1).
- b. C1201-5 in order prior to C1290.
- c. C1290 prior to C1206 and C1209.
- d. C4202 prior to C1210.
- e. C4501 prior to C1207-8 in order.

2. Events

C1201	CAI	Stalls		1.5	DCONFP
C1202	CAI	Recoveries		0.5	DCONFP
C1203	CAI	Spins		1.0	DCONFP
C1204	CAI	Energy Management		1.6	DCONFP
C1205	MIL	Contact Review		2.0	DCONFP
C1290	CAI	Contact Exam 2		1.0	DCONFP
	Test				
C1206	CAI	Rear Cockpit Preflight		0.5	DCONFP
C1207	CAI	Basic Aerobatics		0.7	DCONFP
C1208	CAI	Advanced Aerobatics		1.8	DCONFP
C1209	CAI	Night Procedures		0.8	NCONF
C1210	Offline MIL	Safe-for-Solo		1.0	SFS

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
C13	Lect	Contact Flight 0	1	3.0	Contact

1. Prerequisite. C3102.

2. Events

C1301 Lect Contact Flight 0 3.0

3. Syllabus Notes

a. Student shall demonstrate preflight, postflight, cockpit introduction (to include strapping in), and emergency ground egress.

b. With survival vest on, student shall locate, identify, and discuss function of each ALSS item.

4. Discuss Items. Discuss scheduling, snivels, brief and debrief, flight gear check, aircraft issue, weight and balance, aircraft discrepancy reporting, ATF, ATS, CTS, MIF, headwork, basic airwork, emergency procedures, exams, FTI reference material, TIMS, tower visit (time permitting), and DOR/TTO policy.

Blk #	Media	Title	Events	Hrs	H/X
C21	UTD	Contact Cockpit Procedures	3	3.9	1.3

1. Prerequisites

- a. C1190 (Contact Exam 1).
- b. SY0301 (FMS Trainer 1).
- c. G0102-8 (Indoctrination).

2. Syllabus Notes

a. The student shall bring all required flight gear and practice strapping in on every event in this block.

b. The following procedures will be performed by the student on the indicated event:

C2101

Introduce basic checklist procedures, seat and rudder pedal adjustments, UFCP, basic FMS setup, and voice reports.

C2102

All normal operating procedures, abnormal starts, loss of START READY light during start sequence, engine fire on the ground, emergency engine shutdown, and emergency ground egress.

C2103

All normal operating procedures, aborted takeoff, aircraft departs prepared surface, and CFS and ejection procedures from the ground.

3. Special Syllabus Requirements

C2102

Loss of START READY light during start sequence.

C2103

Blindfold Cockpit Check - Student demonstrates a safe knowledge of location of the following: emergency firewall shutoff handle, CFS handle, PCL cutoff, flap selector, landing gear handle, emergency gear handle, back-up VHF

radio, bus tie switch, PMU switch, PROP SYS circuit breaker, and pressurization control switch.

4. Discuss Items

C2101

All introduced items and conduct of event.

C2102

All introduced items and conduct of event.

C2103

All introduced items and conduct of event.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C2103</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
4	Basic Airwork	2
5	In-flight Checks/Fuel Management	2+
N	Abort Start	3+
N	Fire Warning on Ground (Fire Annunciator Illuminated)	3+
N	Emergency Engine Shutdown	3+
N	Emergency Ground Egress	3+
N	Abort Takeoff	3+
N	Aircraft Departs Prepared Surface	3+
8	Communication	2
9	Mission Planning/Briefing/Debriefing	2
10	Ground Operations	2+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C22	UTD/OFT	Contact Emergency Procedures Trainer	2	2.6	1.3

1. Prerequisites

- a. C2103.
- b. PR0112 (Emergency Procedures Review).

2. Syllabus Notes. Introduce and practice basic emergency procedures. Practice front-seat critical action procedures involving controls the IP cannot access.

C2201

Engine failure immediately after takeoff, engine failure during flight, PMU NORM airstart, PMU OFF airstart, immediate airstart, uncommanded propeller feather, uncommanded power changes/LOP, fire warning in flight, smoke and fume elimination, PMU failure, controlled ejection, and uncontrolled ejection.

C2202

Chip detector warning, oil system malfunction or low oil pressure, electrical system failures, avionics failures, fuel system failures, hydraulic system failures, OBOGS system fail, trim system malfunctions, PEL, and landing gear emergency extension.

3. Special Syllabus Requirements

C2201

Propeller sleeve touchdown (PSTD).

4. Discuss Items

C2201

All introduced items, PSTD, and conduct of event.

C2202

All introduced items, BFI, and conduct of event.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C2202</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	2
4	Basic Airwork	2
5	In-flight Checks/Fuel Management	2+
N	Engine Failure Immediately After Takeoff	2+
N	Engine Failure During Flight	2+
N	PMU NORM Airstart	2+
N	PMU OFF Airstart	2
N	Uncommanded Prop Feather	2+
N	Immediate Airstart	2+
N	Uncommanded Power Changes/LOP	2+
N	Fire Warning in Flight (Fire Annunciator Illuminated)	2+
N	Smoke and Fume Elimination	2
N	PMU Failure	2
N	Chip Detector Warning	2+
N	Oil System Malfunction or Low Oil Press	2+
N	Electrical Failures	2
N	Avionics Failures	2
N	Fuel System Failures	2+
N	Hydraulic System Failures	2+
N	OBOGS System Fail	2+
N	Trim System Malfunctions	2+
N	Controlled Ejection	2+
N	Uncontrolled Ejection	2+
N	Precautionary Emergency Landing	2+
N	Landing Gear Emergency Extension	2+
7	Task Management	2

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C2202</b>
8	Communication	2
9	Mission Planning/Briefing/ Debriefing	2
10	Ground Operations	2+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C31	OFT	Contact	2	2.6	1.3

1. Prerequisites

- a. C2202.
- b. G0290 (Course Rules Exam).
- c. C1290 (Contact Exam 2).

2. Syllabus Notes. Practice basic handling characteristics, basic maneuvers, and local procedures. Introduce and practice the following:

- a. Ground operations, to include abnormal starts.
- b. Local departures and course rules.
- c. Normal flight/integrated scan.
- d. Turn pattern and level speed change.
- e. Power-on, landing pattern, and ELP stalls.
- f. Spin recovery.
- g. Landing pattern procedures.
- h. Local radio procedures.

3. Special Syllabus Requirements

C3101

Instructor demonstrates how the PCL can be inadvertently moved to the cutoff position.

4. Discuss Items

C3101

Local procedures, ground operations, radio procedures, takeoff, departure, level speed change, turn pattern, power-on stalls, landing pattern stalls, ELP stalls, and spin.

C3102

Local procedures, ground operations, course rules, radio procedures, inadvertent trim actuation, landing pattern, waveoff, no-flap landing, takeoff flap landing, and LDG flap landing.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C3102</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	2+
4	Basic Airwork	2+
5	In-flight Checks/Fuel Management	2+
6	In-flight Planning/Area Orientation	2+
7	Task Management	2+
8	Communication	2+
9	Mission Planning/Briefing/Debriefing	2
10	Ground Operations	2+
11	Takeoff	2+
12	Departure	2+
14	Turn Pattern	2+
15	Level Speed Change	2+
16	Slow Flight	2
17	Power-On Stalls	2+
18	Landing Pattern Stalls	2+
19	Emergency Landing Pattern Stalls	2+
20	Spin	2+
21	Contact Unusual Attitudes	2
30	Slip	2

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C3102</b>
31	Power Loss	2
32	Precautionary Emergency Landing	2
33	PEL/P	2
34	ELP Landing	2
35	Arrival/Course Rules	2
36	Landing Pattern	2+
37	No-Flap Landing	2+
37	Takeoff Flap Landing	2+
37	LDG Flap Landing	2+
37	Full-stop Landing	2+
39	Waveoff	2+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C41	T-6B	Day Contact	4	6.0	1.5

1. Prerequisite. C1301 (Contact Flight 0).

2. Syllabus Notes

a. Instructors will provide each student with ample opportunity to practice basic maneuvers such as turns, changes of airspeed, use of trim, local area familiarization, etc.

b. All flights in this block shall be with the on-wing instructor.

c. In this block, students will be introduced, but not graded on anti-spin recovery procedures. Students will be graded on Spin Recovery using the "inadvertent departure from controlled flight" procedure IAW the T-6B NATOPS Flight Manual.

d. Students are required to review NATOPS Flight Manual, Chapter 6, Flight Characteristics, prior to C4103.

3. Special Syllabus Requirements

C4101

AGSM, aircraft trim demonstration, integrated scan pattern demonstration, TCAS demonstration.

C4102

Aborted takeoff demonstration and waveoff lights demonstration.

C4103

Instructor will demonstrate and then student will execute anti-spin recovery procedures.

4. Discuss Items

C4101

"I'm safe" checklist, CRM, ejection seat and CFS, abnormal starts, brake failure, strike of ground object, takeoff, departure, basic transitions, trim, turn pattern, level speed change, slow flight, see-and-avoid principle, and cloud clearances.

C4102

Tire failures, aborted takeoff, working area/outlying field operations, power-on stalls, landing pattern stalls, ELP stalls, landing pattern, no-flap landing, takeoff flap landing, LDG flap landing, and waveoff.

C4103

Spin, anti-spin recovery procedures, OCF, and Contact unusual attitudes.

C4104

Crosswind takeoff/approach/landing, and landing irregularities.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4104</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	2+
4	Basic Airwork	3+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	2+
7	Task Management	2+
8	Communication	2+
9	Mission Planning/Briefing/Debriefing	2+
10	Ground Operations	3+
11	Takeoff	3+
12	Departure	3+
13	G-Awareness/Exercise	2+
14	Turn Pattern	3+
15	Level Speed Change	3+
16	Slow Flight	3+
17	Power-On Stalls	2+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4104</b>
18	Landing Pattern Stalls	2+
19	Emergency Landing Pattern Stalls	2+
20	Spin	2
21	Contact Unusual Attitudes	2
30	Slip	2
31	Power Loss	2
32	Precautionary Emergency Landing	2
33	PEL/P	2
34	ELP Landing	2
35	Arrival/Course Rules	2+
36	Landing Pattern	2+
37	No-Flap Landing	2+
37	Takeoff Flap Landing	2+
37	LDG Flap Landing	2+
37	Full-stop Landing	2+
39	Waveoff	2+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C32	OFT	Contact	3	3.9	1.3

1. Prerequisite. I2104.

2. Syllabus Notes

a. Introduce and practice the following:

(1) Ground operations, to include abnormal starts.

(2) Landing pattern procedures.

(3) Local departures and course rules.

(4) Local radio procedures.

(5) Engine failures and malfunctions.

(6) PEL, forced landing procedures, and ELP.

b. During C3202, practice at least one pattern and landing with the TAD off.

3. Special Syllabus Requirements

C3203

Aborted takeoff and aircraft departs a prepared surface.

4. Discuss Items

C3201

Engine malfunctions, PEL, and ELP.

C3202

Engine failures, forced landing, and ejection.

C3203

Crosswind takeoff/touch-and-go/full-stop landings, aborted takeoff, and aircraft departs a prepared surface.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C3203</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	2+
4	Basic Airwork	3+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	2+
7	Task Management	3+
8	Communication	2+
9	Mission Planning/Briefing/ Debriefing	2+
10	Ground Operations	3+
11	Takeoff	3+
12	Departure	3+
13	G-Awareness/Exercise	2
14	Turn Pattern	3
15	Level Speed Change	3
16	Slow Flight	3
17	Power-On Stalls	2
18	Landing Pattern Stalls	2
19	Emergency Landing Pattern Stalls	2
20	Spin	2+
21	Contact Unusual Attitudes	2+
30	Slip	2+
31	Power Loss	2+
32	Precautionary Emergency Landing	2+
33	PEL/P	2+
34	ELP Landing	2+
35	Arrival/Course Rules	2+
36	Landing Pattern	2+
37	No-Flap Landing	2

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C3203</b>
37	Takeoff Flap Landing	2
37	LDG Flap Landing	2
37	Full-stop Landing	2+
39	Waveoff	2+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C42	T-6B	Day Contact	4	6.4	1.6

1. Prerequisite. C3203.

2. Syllabus Notes

a. Students shall fly three events within C4201-4302 off-wing.

3. Special Syllabus Requirements

C4204

Aldis lamp signals.

4. Discuss Items

C4201

NATOPS limitations, engine malfunctions, PEL, and ELP.

C4202

Hydraulic system, waveoff, crosswind takeoffs/touch-and-goes/full-stop landings.

C4203

Oil and propeller systems, engine failures, forced landing, and ejection.

C4204

Avionics malfunctions, lost communications, Aldis lamp signals, and local area flight procedures/SOP.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4204</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	3+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/ Debriefing	3+
10	Ground Operations	3+
11	Takeoff	3+
12	Departure	3+
13	G-Awareness/Exercise	3+
14	Turn Pattern	3
15	Level Speed Change	3
16	Slow Flight	3
17	Power-On Stalls	3+
18	Landing Pattern Stalls	3+
19	Emergency Landing Pattern Stalls	3+
20	Spin	3+
21	Contact Unusual Attitudes	2+
30	Slip	3+
31	Power Loss	2+
32	Precautionary Emergency Landing	2+
33	PEL/P	2+
34	ELP Landing	2+
35	Arrival/Course Rules	3+
36	Landing Pattern	3+
37	No-Flap Landing	2+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4204</b>
37	Takeoff Flap Landing	2+
37	LDG Flap Landing	2+
37	Full-stop Landing	2+
39	Waveoff	3+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C43	T-6B	Day Contact	4	6.8	1.7

1. Prerequisite. C4204.

2. Syllabus Notes

a. Students shall fly three events within C4201-4302 off-wing.

b. C4303-4 shall be flown on-wing.

c. For C4304, student shall complete a T-6B BOLDFACE Emergency Procedures/Operating Limitations Exam and turn it in to on-wing during brief.

3. Special Syllabus Requirements

C4302

Demonstrate visual straight-in approach.

C4303

Student executes aborted takeoff IAW FTI/NATOPS.

C4304

Securing rear cockpit for solo.

4. Discuss Items

C4301

OBOGS and pressurization systems, hard landings, gear emergencies, flap failures, and emergency orbit pattern.

C4302

Fuel system, full-stop landings, visual straight-in, and OLF discontinued entry.

C4303

Electrical system, aborted takeoff, and heavy-weight landing considerations.

C4304

Safe-for-solo and securing rear cockpit. Crosswind takeoffs/touch-and-goes/full-stop landings and any previously discussed maneuver or procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4304</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
13	G-Awareness/Exercise	4+
14	Turn Pattern	4
15	Level Speed Change	4
16	Slow Flight	3
17	Power-On Stalls	4+
18	Landing Pattern Stalls	4+
19	Emergency Landing Pattern Stalls	4+
20	Spin	3+
21	Contact Unusual Attitudes	3+
30	Slip	3+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4304</b>
31	Power Loss	3+
32	Precautionary Emergency Landing	3+
33	PEL/P	3+
34	ELP Landing	3+
35	Arrival/Course Rules	3+
36	Landing Pattern	4+
37	No-Flap Landing	3+
37	Takeoff Flap Landing	3+
37	LDG Flap Landing	3+
37	Full-stop Landing	3+
39	Waveoff	4+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C44	T-6B	Midphase Contact Check Flight	1	1.7	1.7

1. Prerequisites
  - a. C4304.
  - b. C1210 (Safe-for-Solo).
2. Syllabus Notes. None.
3. Special Syllabus Requirements. None.
4. Discuss Items. Any previously discussed items, unauthorized solo maneuvers, lost aircraft procedures, unintentional instrument flight, local course rules, and emergency procedures.
5. Block MIF

CTS REF	MANEUVER	C4490
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
13	G-Awareness/Exercise	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4490</b>
14	Turn Pattern	4
15	Level Speed Change	4
16	Slow Flight	3
17	Power-On Stalls	4+
18	Landing Pattern Stalls	4+
19	Emergency Landing Pattern Stalls	4+
20	Spin	3+
21	Contact Unusual Attitudes	3+
30	Slip	3
31	Power Loss	3
32	Precautionary Emergency Landing	3+
33	PEL/P	3+
34	ELP Landing	3+
35	Arrival/Course Rules	3+
36	Landing Pattern	4+
37	No-Flap Landing	3+
37	Takeoff Flap Landing	3+
37	LDG Flap Landing	3+
37	Full-stop Landing	3+
39	Waveoff	4+

Blk #	Media	Title	Events	Hrs	H/X
C45	T-6B	Contact Solo Flight	1	1.5	1.5

1. Prerequisite. C4490.
2. Syllabus Notes. The student should accomplish a minimum of four touch-and-go landings and may only accomplish maneuvers listed in the MIF table.
3. Special Syllabus Requirements. None.
4. Discuss Items. IAW ODO/FDO solo brief.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4501</b>
1	General Knowledge/Procedures	4
2	Emergency Procedures	4
3	Headwork/Situational Awareness	3
4	Basic Airwork	4
5	In-flight Checks/Fuel Management	4
6	In-flight Planning/Area Orientation	3
7	Task Management	3
8	Communication	4
9	Mission Planning/Briefing/Debriefing	4
10	Ground Operations	4
11	Takeoff	4
12	Departure	4
13	G-Awareness/Exercise	4
14	Turn Pattern	4
15	Level Speed Change	4
35	Arrival/Course Rules	3
36	Landing Pattern	4
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
37	Full-stop Landing	3
39	Waveoff	4

Blk #	Media	Title	Events	Hrs	H/X
C33	OFT	Contact	2	2.6	1.3

1. Prerequisite. C1208 (Advanced Aerobatics).

2. Syllabus Notes

a. Practice scenario-based emergency procedures and introduce student to aerobatic maneuvers.

b. The student shall only use the HUD to accomplish the SSR in this block.

3. Special Syllabus Requirements

C3301

OCF recovery.

C3302

HUD introduction (aerobatics maneuvers and landing pattern) and windshear recovery.

4. Discuss Items

C3301

Aerobatics, OCF recovery procedures, Contact unusual attitudes, airborne damaged aircraft, maneuvering speed, and AGSM.

C3302

Combination maneuvers, windshear recovery, HUD, and any emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C3302</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	4
13	G-Awareness/Exercise	4
17	Power-On Stalls	4
18	Landing Pattern Stalls	4
19	Emergency Landing Pattern Stalls	4
20	Spin	3
21	Contact Unusual Attitudes	3
22	Loop	2+
23	Aileron Roll	2+
24	Split-S	2+
25	Barrel Roll	2+
26	Cloverleaf	2+
27	Immelmann	2+
28	Cuban Eight	2+
29	Wingover	2+
30	Slip	3
31	Power Loss	3+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C3302</b>
32	Precautionary Emergency Landing	3+
33	PEL/P	3+
34	ELP Landing	3+
35	Arrival/Course Rules	3
36	Landing Pattern	4
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
37	Full-stop Landing	3
38	AOA Pattern	2
39	Waveoff	4
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C46	T-6B	Day Contact	4	6.8	1.7

1. Prerequisite. C3302.

2. Syllabus Notes

a. General. The stage emphasizes aerobatics and AOA approaches; however, the student shall maintain proficiency in Contact stage maneuvers.

b. Unusual Attitude Recoveries. The instructor will instruct and enter unusual attitudes from normal aerobatic maneuvers. Students must be able to associate cause and effect of unusual attitude situations and apply proper recovery procedures.

c. The student shall only use the HUD to accomplish the SSR in this block.

3. Special Syllabus Requirements

C4602

HUD introduction (aerobatics maneuvers and landing pattern).

4. Discuss Items

C4601

Aerobatics, OCF recovery procedures, Contact unusual attitudes, AOA approaches, and AGSM.

C4602

Combination maneuvers, airborne-damaged aircraft, HUD, and maneuvering speed.

C4603-4

Any previously discussed maneuver or emergency procedure.

5. Blank MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4604</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/ Briefing/ Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
13	G-Awareness/ Exercise	4+
17	Power-On Stalls	4+
18	Landing Pattern Stalls	4+
19	Emergency Landing Pattern Stalls	4+
20	Spin	4+
21	Contact Unusual Attitudes	4+
22	Loop	3+
23	Aileron Roll	3+
24	Split-S	3+
25	Barrel Roll	3+
26	Cloverleaf	3+
27	Immelmann	3+
28	Cuban Eight	3+
29	Wingover	3+
30	Slip	3
31	Power Loss	3+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4604</b>
32	Precautionary Emergency Landing	3+
33	PEL/P	3+
34	ELP Landing	3+
35	Arrival/Course Rules	4+
36	Landing Pattern	4+
37	No-Flap Landing	4+
37	Takeoff Flap Landing	4+
37	LDG Flap Landing	4+
37	Full-stop Landing	4+
38	AOA Pattern	3+
39	Waveoff	4+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C47	T-6B	Final Contact Check Flight	1	1.7	1.7

1. Prerequisite. C4604.
2. Syllabus Notes. None.
3. Special Syllabus Requirements. None.
4. Discuss Items. Any previously discussed maneuver or emergency procedure.
5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4790</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
13	G-Awareness/Exercise	4+
17	Power-On Stalls	4+
18	Landing Pattern Stalls	4+
19	Emergency Landing Pattern Stalls	4+
20	Spin	4
21	Contact Unusual Attitudes	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4790</b>
22	Loop	3+
23	Aileron Roll	3+
24	Split-S	3
25	Barrel Roll	3+
26	Cloverleaf	3
27	Immelmann	3
28	Cuban Eight	3+
29	Wingover	3+
30	Slip	3
31	Power Loss	3+
32	Precautionary Emergency Landing	3
33	PEL/P	3+
34	ELP Landing	3+
35	Arrival/Course Rules	4+
36	Landing Pattern	4+
37	No-Flap Landing	4
37	Takeoff Flap Landing	4
37	LDG Flap Landing	4
37	Full-stop Landing	4+
38	AOA Pattern	3
39	Waveoff	4+

Blk #	Media	Title	Events	Hrs	H/X
C48	T-6B	Final Contact Solo	1	1.5	1.5

1. Prerequisite. C4790.

2. Syllabus Notes

a. The student may not perform stalls, AOA approach, split-S, Immelmann, cloverleaf, inverted flight, or combination maneuver.

b. The student should accomplish a minimum of four touch-and-go landings on the solo.

3. Special Syllabus Requirements. None.

4. Discuss Items. IAW ODO/FDO solo brief.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4801</b>
1	General Knowledge/Procedures	4
2	Emergency Procedures	4
3	Headwork/Situational Awareness	4
4	Basic Airwork	4
5	In-flight Checks/Fuel Management	4
6	In-flight Planning/Area Orientation	4
7	Task Management	4
8	Communication	4
9	Mission Planning/Briefing/ Debriefing	4
10	Ground Operations	4
11	Takeoff	4
12	Departure	4
13	G-Awareness/Exercise	4
22	Loop	3
23	Aileron Roll	3
25	Barrel Roll	3
28	Cuban Eight	3
29	Wingover	3
35	Arrival/Course Rules	4
36	Landing Pattern	4
37	No-Flap Landing	4
37	Takeoff Flap Landing	4
37	LDG Flap Landing	4
37	Full-stop Landing	4
39	Waveoff	4

Blk #	Media	Title	Events	Hrs	H/X
C49	T-6B	Night Contact	1	1.5	1.5

1. Prerequisite. C4501.

2. Syllabus Notes

a. Initial takeoff shall be no earlier than 30 minutes after official sunset.

b. Instructor demonstrates at least one landing pattern prior to the student attempting night landings.

c. Event shall be at least 1.4 hours and student shall accomplish at least five landings.

3. Special Syllabus Requirements. None.

4. Discuss Items. Night flying considerations, airport night lighting, aircraft and cockpit lighting, applicable night emergencies, local night SOP, and electrical system malfunctions.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>C4901</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
14	Turn Pattern	3+
15	Level Speed Change	3+
32	Precautionary Emergency Landing	3+
33	PEL/P	3+
34	ELP Landing	3+
35	Arrival/Course Rules	3+
36	Landing Pattern	4+
37	No-Flap Landing	3+
37	Takeoff Flap Landing	3+
37	LDG Flap Landing	3+
37	Full-stop Landing	3+
39	Waveoff	4

CNATRAINST 1542.166A  
6 Feb 12

BLANK PAGE

Chapter V

Instrument Training

1. Matrices. The following matrices are an overview of the entire Instrument stage, broken into two parts: Basic Instruments and Radio Instruments. Because USN/USMC Strike Top-off includes only one Instrument Navigation block, a stage MIF is not shown. The purpose of these matrices is to provide the student and IP the easiest way to track progress, regression, and overall status in relation to the MIF.

2. Basic Instruments Stage MIF

Simulator/Device Event

<b>BASIC INSTRUMENTS STAGE MANEUVER ITEM FILE</b>			
<b>CTS REF</b>	<b>MANEUVER</b>	<b>I2104</b>	<b>I2203</b>
1	General Knowledge/Procedures	3+	3+
2	Emergency Procedures	3+	3+
3	Headwork/Situational Awareness	2+	3+
4	Basic Airwork	3+	3+
5	In-flight Checks/Fuel Management	2+	3+
7	Task Management	2+	3+
8	Communication	2	3
9	Mission Planning/Briefing/Debriefing	2	3
10	Ground Operations	2	3
11	Takeoff	2	2
12	Departure	2	2
40	S-1 Pattern	3+	
41	Steep Turns	3+	
42	IFR Unusual Attitudes	3+	3+
43	Timed Turns	3+	
44	Radial Intercepts		3+

MIF continued on next page.

<b>BASIC INSTRUMENTS STAGE MANEUVER ITEM FILE</b>			
<b>CTS REF</b>	<b>MANEUVER</b>	<b>I2104</b>	<b>I2203</b>
45	Point-to-Point		3+
46	Arcing		3+
47	GCA Pattern	3+	
48	Approach Pattern	3+	
50	Enroute Procedures	2	3
51	Enroute Descent	2+	3+
	Special Syllabus Requirements	1	

3. Radio Instruments Stage MIF

Simulator/Device Event  
 Check Flight Event

<b>RADIO INSTRUMENTS STAGE MANEUVER ITEM FILE</b>								
<b>CTS REF</b>	<b>MANEUVER</b>	<b>I3106</b>	<b>I4104</b>	<b>I3205</b>	<b>I4204</b>	<b>I3302</b>	<b>I4305</b>	<b>I4490</b>
1	General Knowledge/ Procedures	3+	3+	3+	4+	4+	4+	4+
2	Emergency Procedures	3+	3+	3+	4+	4+	4+	4+
3	Headwork/Situational Awareness	3+	3+	3+	3+	3+	4+	4+
4	Basic Airwork	3+	3+	3+	4+	4+	4+	4+
5	In-flight Checks/Fuel Management	3+	3+	3+	4+	4+	4+	4+
6	In-flight Planning/Area Orientation	3	3+	3	4+	4+	4+	4+
7	Task Management	3+	3+	3+	4+	4+	4+	4+
8	Communication	3+	3+	3+	4+	4+	4+	4+
9	Mission Planning/ Briefing/Debriefing	3+	3+	3+	4+	4+	4+	4+

MIF continued on next page.

RADIO INSTRUMENTS STAGE MANEUVER ITEM FILE								
CTS REF	MANEUVER	I3106	I4104	I3205	I4204	I3302	I4305	I4490
10	Ground Operations	4	4+	4	4+	4	4+	4+
11	Takeoff	4+	4	4+	4	4+	4+	4
12	Departure	3+	3+	3+	4+	4+	4+	4+
44	Radial Intercepts	3+	3+	3+	4+	4	4	4
45	Point-to-Point	3+	3+	3+	4+	4	4+	4+
49	Holding	2+	3+	3+	4+	4+	4+	4+
50	Enroute Procedures	2+	3+	3+	4+	4+	4+	4+
51	Enroute Descent	2+	3+	3+	4+	4+	4+	4+
52	High-Altitude Approach	2	2	2+	3	3	3	3
53	Teardrop Approach	2+	3	3+	4	4	4	4
54	Arcing Approach	2+	3	3+	4	4	4	4
55	HILO Approach	2+	3	3+	4	4	4	4
56	Procedure Turn Approach	2+	3	3+	4	4	4	4
57	RVFAC Approach	2+	3	3+	4	4	4	4
58	GPS Approach	2	2	3+	4+	4	4+	4
59	PAR Approach	2+	3+	3+	4+	4	4+	4
60	ASR Approach	2+	3+	3+	4+	4	4+	4
61	VOR Final	2+	3+	3+	4+	4	4+	4
62	ILS Final	2+	3+	3+	4+	4	4+	4
63	LOC Final	2+	3+	3+	4+	4	4+	4
64	GPS Final	2	2	3+	4+	4	4+	4
65	Backup Flight Instrument Approach	2	3	3+	3	3	3	3
66	Circling Approach	2	3	3	3	3+	4+	4
67	Missed Approach	2+	3+	3+	4+	4+	4+	4+
68	Transition to Landing/ Landing	3		3		3+	4+	
	Special Syllabus Requirements		1					

4. USN/USMC Strike Top-off Instrument Navigation Stage MIF.  
See block MIF.

Blk #	Media	Title	Events	Hrs	Blk Name
IN11/2/3	Class	Instruments	28	47.0	See Below

1. Prerequisites

- a. C1301 prior to IN1101.
- b. IN1101-4 in order prior to I2101.
- c. IN1105-6 in order prior to I2201.
- d. C4501 prior to IN1201 and IN1214.
- e. IN1201-13 (in order) and IN1214 prior to IN1301.
- f. IN1301-7 in order prior to IN1390.

2. Events

IN1101	CAI	Instrument Displays and Cross-check		1.0	IN1
IN1102	CAI	Turns, Climbs, Descents		0.7	IN1
IN1103	CAI	Basic Instrument Maneuvers		1.0	IN1
IN1104	Lect	Basic Instrument Review		1.0	IN1
IN1105	CAI	Introduction to Radio Instrument Maneuvers		1.7	IN1
IN1106	MIL	Radio Instrument Maneuvers Review		2.0	IN1
IN1201	MIL	Advanced Instruments Overview		1.0	IN2
IN1202	CAI	FLIP, NOTAMS and Charts		2.0	IN2
IN1203	CAI	Instrument Takeoff and Departure		0.8	IN2
IN1204	CAI	Arrival Preparation and Holding		0.6	IN2
IN1205	MIL	Instruments Review		1.5	IN2
IN1206	CAI	Descent and Penetration		0.7	IN2

2. Events (Cont)

IN1207	CAI	Low Altitude Approaches	0.9	IN2
IN1208	MIL	Instruments Review 2	2.5	IN2
IN1209	CAI	Final Approach	1.2	IN2
IN1210	CAI	Radar Approaches	1.4	IN2
IN1211	CAI	Transition to Landing and Missed Approach	2.5	IN2
IN1212	MIL	Instruments Review 3	2.5	IN2
IN1213	MIL	Instruments Review 4	2.0	IN2
IN1214	Lect	Weather Review (Met B)	3.0	IN2
IN1301	CAI	Mission Planning Computations	1.5	IN3
IN1302	CAI	IFR Mission Planning	3.0	IN3
IN1303	CAI	IFR Navigation	1.5	IN3
IN1304	MIL	IFR Navigation Review	3.0	IN3
IN1305	MIL	IFR Mission Planning Lab 1	3.0	IN3
IN1306	Offline MIL	IFR Mission Planning Lab 2	2.0	IN3
IN1307	Lect	CRM Case Studies	1.0	IN3
IN1390	CAI	Instruments Exam Test	2.0	IN3

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
I21	UTD	Basic Instruments	4	5.2	1.3

1. Prerequisites

a. C4104.

b. IN1104 (Basic Instrument Review).

2. Syllabus Note. None.

3. Special Syllabus Requirements

I2103

Proceed direct to homefield using any available NAVAID.

4. Discuss Items

I2101

Departures, steep turns, timed turns, enroute descent, and scan patterns.

I2102

IMC emergencies, GCA pattern, and S-1 pattern.

I2103

Approach maneuver and IFR unusual attitudes.

I2104

IMC emergencies, avionics failures, and BFI.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I2104</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	2+
4	Basic Airwork	3+
5	In-flight Checks/Fuel Management	2+
7	Task Management	2+
8	Communication	2
9	Mission Planning/Briefing/ Debriefing	2
10	Ground Operations	2
11	Takeoff	2
12	Departure	2
40	S-1 Pattern	3+
41	Steep Turns	3+
42	IFR Unusual Attitudes	3+
43	Timed Turns	3+
47	GCA Pattern	3+
48	Approach Pattern	3+
50	Enroute Procedures	2
51	Enroute Descent	2+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
I22	UTD	Basic Instruments	3	3.9	1.3

1. Prerequisites

a. IN1106 (Radio Instrument Maneuvers Review).

b. C4501.

2. Syllabus Notes. I22 block may be executed anytime after C4501 and prior to I3101.

3. Special Syllabus Requirements. None.

4. Discuss Items

I2201

HSI orientation, direct to a VOR, over-the-station intercepts, and radial intercept procedures.

I2202

Arcing, radial-arc, arc-radial, OBOGS malfunctions, and hyperventilation/hypoxia.

I2203

Point-to-point and battery and generator failure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I2203</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	3+
5	In-flight Checks/Fuel Management	3+
7	Task Management	3+
8	Communication	3
9	Mission Planning/Briefing/ Debriefing	3
10	Ground Operations	3
11	Takeoff	2
12	Departure	2
42	IFR Unusual Attitudes	3+
44	Radial Intercepts	3+
45	Point-to-Point	3+
46	Arcing	3+
50	Enroute Procedures	3
51	Enroute Descent	3+

Blk #	Media	Title	Events	Hrs	H/X
I31	OFT	Radio Instruments	6	7.8	1.3

1. Prerequisites

- a. IN1390 (Instruments Exam).
- b. I2203.
- c. C1209 (Night Procedures) prior to I3105.

2. Syllabus Notes

- a. I3105 and I3106 shall be under simulated night conditions.
- b. I3101-3 may be conducted in the UTD.
- c. During this phase of training, the student will be expected to fly all maneuvers without the use of FMS navigation.

3. Special Syllabus Requirements. None.

4. Discuss Items

I3101

Clearance and departure procedures, VOR procedure turn and teardrop approaches, 6T's, FAF-to-MAP timing adjustments, VDP, and missed approach.

I3102

Holding, HILO approaches, and oil system malfunctions.

I3103

PAR, ASR, IMC emergencies, and propeller malfunctions.

I3104

RVFAC, ILS/LOC procedures, and fuel system malfunctions.

I3105

Arcing, night procedures, night lighting, night cockpit setup, and hydraulics system malfunctions.

I3106

SID/STAR, obstacle departure procedure, and Trouble T.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I3106</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	3+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	3+
44	Radial Intercepts	3+
45	Point-to-Point	3+
49	Holding	2+
50	Enroute Procedures	2+
51	Enroute Descent	2+
52	High-Altitude Approach	2
53	Teardrop Approach	2+
54	Arcing Approach	2+
55	HILO Approach	2+
56	Procedure Turn Approach	2+
57	RVFAC Approach	2+
58	GPS Approach	2

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I3106</b>
59	PAR Approach	2+
60	ASR Approach	2+
61	VOR Final	2+
62	ILS Final	2+
63	LOC Final	2+
64	GPS Final	2
65	Backup Flight Instrument Approach	2
66	Circling Approach	2
67	Missed Approach	2+
68	Transition to Landing/Landing	3

Blk #	Media	Title	Events	Hrs	H/X
I41	T-6B	Radio Instruments	4	6.4	1.6

1. Prerequisites

- a. I3106.
- b. C1206 (Rear Cockpit Preflight).

2. Syllabus Notes

- a. All events in this block shall be flown from the rear cockpit.
- b. Minimum of two events from this block should be flown at night.
- c. Students shall meet or exceed these approach-type requirements. A minimum of 10 approaches are required for this block.

GCA	2 (One PAR and ASR)
ILS	2
Localizer	1
VOR	3

- d. During this phase of training, the student will be expected to fly all maneuvers without the use of FMS navigation.

3. Special Syllabus Requirements

I4101  
Front and rear cockpit differences, and vertigo demonstration.

4. Discuss Items

I4101  
CRM, holding, and VOR approach procedures.

I4102  
ILS/LOC approach procedures, RVFAC, and icing considerations.

I4103

PAR, ASR, and no-gyro approaches; hypoxia/hyperventilation; and OBOGS malfunctions.

I4104

Inadvertent thunderstorm penetration and any emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4104</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	3+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4+
11	Takeoff	4
12	Departure	3+
44	Radial Intercepts	3+
45	Point-to-Point	3+
49	Holding	3+
50	Enroute Procedures	3+
51	Enroute Descent	3+
52	High-Altitude Approach	2
53	Teardrop Approach	3
54	Arcing Approach	3
55	HILO Approach	3
56	Procedure Turn Approach	3

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4104</b>
57	RVFAC Approach	3
58	GPS Approach	2
59	PAR Approach	3+
60	ASR Approach	3+
61	VOR Final	3+
62	ILS Final	3+
63	LOC Final	3+
64	GPS Final	2
65	Backup Flight Instrument Approach	3
66	Circling Approach	3
67	Missed Approach	3+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
I32	OFT	Radio Instruments	5	6.5	1.3

1. Prerequisite. SY0302 (FMS Trainer 2).

2. Syllabus Notes

a. I3204 and I3205 shall be under simulated night conditions.

b. I3201-2 may be conducted in the UTD.

c. Student shall fly one GCA as a no-gyro approach in the block.

d. Full use of the FMS is available to the student on I3201-3. On I3204-5, students should practice maneuvers and approaches without the use of the FMS, excluding GPS approaches.

e. Flight planning for all events in this block shall include a completed jet log and DD-175.

3. Special Syllabus Requirements. None.

4. Discuss Items

I3201

GPS procedures, GPS allowable operations (GPS waypoints in lieu of NDB, VOR, and TACAN fixes), GPS approaches, GPS holding, and GPS flight modes.

I3202

FMS flight plan usage (SID/STAR, holding, and approach) and FMS arrivals.

I3203

No-gyro approach and BFI approach.

I3204

High-altitude approach, non-radar environment communications, and lost communications (local/FIH).

I3205

Avionics failures, obstacle departure procedures, and Trouble T.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I3205</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	3+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	3+
44	Radial Intercepts	3+
45	Point-to-Point	3+
49	Holding	3+
50	Enroute Procedures	3+
51	Enroute Descent	3+
52	High-Altitude Approach	2+
53	Teardrop Approach	3+
54	Arcing Approach	3+
55	HILO Approach	3+
56	Procedure Turn Approach	3+
57	RVFAC Approach	3+
58	GPS Approach	3+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I3205</b>
59	PAR Approach	3+
60	ASR Approach	3+
61	VOR Final	3+
62	ILS Final	3+
63	LOC Final	3+
64	GPS Final	3+
65	Backup Flight Instrument Approach	3+
66	Circling Approach	3
67	Missed Approach	3+
68	Transition to Landing/Landing	3

Blk #	Media	Title	Events	Hrs	H/X
I42	T-6B	Radio Instruments	4	6.4	1.6

1. Prerequisite. I3205.

2. Syllabus Notes

a. Minimum of two events from this block should be flown at night.

b. All events in this block shall be flown from the rear cockpit.

c. Student shall fly one GCA as a no-gyro approach in the block.

d. Flights may be conducted as an out-and-in.

e. Students shall meet or exceed these approach-type requirements. A minimum of 10 approaches are required for this block.

GCA	2 (One PAR and ASR)
ILS	2
Localizer	1
VOR	2
GPS	2

f. Full use of the FMS is available to the student on I4201-2. On I4203-4, students should practice maneuvers and approaches without the use of the FMS, excluding GPS approaches.

g. Flight planning for all events in this block shall include a completed jet log, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.

3. Special Syllabus Requirements. None.

4. Discuss Items

I4201

Clearance and departure procedures, stereo routes (canned flight plans), airway navigation, and lost communications (local/FIH).

I4202

FMS flight plan usage (SID/STAR, holding, and approach) and FMS arrivals.

I4203

No-gyro approach, emergency field selection, and fuel management.

I4204

OPNAV 3710.7 takeoff and approach minimums and alternate filing minimums.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4204</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4
12	Departure	4+
44	Radial Intercepts	4+
45	Point-to-Point	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4204</b>
49	Holding	4+
50	Enroute Procedures	4+
51	Enroute Descent	4+
52	High-Altitude Approach	3
53	Teardrop Approach	4
54	Arcing Approach	4
55	HILLO Approach	4
56	Procedure Turn Approach	4
57	RVFAC Approach	4
58	GPS Approach	4+
59	PAR Approach	4+
60	ASR Approach	4+
61	VOR Final	4+
62	ILS Final	4+
63	LOC Final	4+
64	GPS Final	4+
65	Backup Flight Instrument Approach	3
66	Circling Approach	3
67	Missed Approach	4+

Blk #	Media	Title	Events	Hrs	H/X
I33	OFT	Instrument Navigation	2	2.6	1.3

1. Prerequisite. I3205.

2. Syllabus Notes

a. I3302 shall be under simulated night conditions.

b. Flight planning for all events in this block shall include a completed jet log and DD-175.

3. Special Syllabus Requirements. None.

4. Discuss Items

I3301

OPNAV 3710.7 minimum fuel requirements, and NOTAMS to include local, FDC, center, special notices, NTAP, and GPS.

I3302

Enroute weather sources, icing, inadvertent thunderstorm penetration, and ground speed calculations.

5. Block MIF

CTS REF	MANEUVER	I3302
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I3302</b>
10	Ground Operations	4
11	Takeoff	4+
12	Departure	4+
44	Radial Intercepts	4
45	Point-to-Point	4
49	Holding	4+
50	Enroute Procedures	4+
51	Enroute Descent	4+
52	High-Altitude Approach	3
53	Teardrop Approach	4
54	Arcing Approach	4
55	HILLO Approach	4
56	Procedure Turn Approach	4
57	RVFAC Approach	4
58	GPS Approach	4
59	PAR Approach	4
60	ASR Approach	4
61	VOR Final	4
62	ILS Final	4
63	LOC Final	4
64	GPS Final	4
65	Backup Flight Instrument Approach	3
66	Circling Approach	3+
67	Missed Approach	4+
68	Transition to Landing/Landing	3+

Blk #	Media	Title	Events	Hrs	H/X
I43	T-6B	Instrument Navigation	5	8.5	1.7

1. Prerequisites

- a. I3302.
- b. I4204.

2. Syllabus Notes

a. Within I4301-4, two events shall be flown from the front cockpit. All other events shall be flown from the rear cockpit.

b. Two events in this block should be flown at night; one event shall be flown at night.

c. All events in this block should be flown as an out-and-in or cross-country.

d. Flight planning for all events in this block shall include a completed jet log, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.

e. A minimum of one flight should be flown within the high altitude route structure.

f. Students shall meet or exceed these approach-type requirements. A minimum of 12 approaches are required for this block. At least two shall include a circling-to-land maneuver.

GCA	2 (One PAR and ASR)
ILS	2
Localizer	1
VOR	2
GPS	2

3. Special Syllabus Requirements. None.

4. Discuss Items

I4301

Flight planning, jet log, DD-175, DD-175-1 weather brief, OPNAV 3710.7 takeoff and approach minimums, alternate filing minimums, FSS, and strange field operations.

I4302

Enroute weather, divert to alternate, change of flight plan while airborne, IFR supplement, circling maneuver, and VDP.

I4303

Controlled/uncontrolled airspace, emergency field selection, high altitude approach, OPNAV 3710.7 minimum fuel requirements, and fuel management.

I4304

Lost communications (FIH), SID/STAR, and any emergency procedure.

I4305

Obstacle departure procedures, Trouble T, and any emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4305</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4305</b>
11	Takeoff	4+
12	Departure	4+
44	Radial Intercepts	4
45	Point-to-Point	4+
49	Holding	4+
50	Enroute Procedures	4+
51	Enroute Descent	4+
52	High-Altitude Approach	3
53	Teardrop Approach	4
54	Arcing Approach	4
55	HILO Approach	4
56	Procedure Turn Approach	4
57	RVFAC Approach	4
58	GPS Approach	4+
59	PAR Approach	4+
60	ASR Approach	4+
61	VOR Final	4+
62	ILS Final	4+
63	LOC Final	4+
64	GPS Final	4+
65	Backup Flight Instrument Approach	3
66	Circling Approach	4+
67	Missed Approach	4+
68	Transition to Landing/Landing	4+

Blk #	Media	Title	Events	Hrs	H/X
I44	T-6B	Instrument Check Flight	1	1.7	1.7

1. Prerequisite. I4305.

2. Syllabus Notes

a. Shall be flown from the rear cockpit.

b. A minimum of three approaches are required and should include:

(1) VOR or GPS.

(2) GCA.

(3) ILS or Localizer.

c. Point-to-point is required.

d. Holding is required.

e. Flight planning for this event shall include a completed jet log, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.

3. Special Syllabus Requirements. None.

4. Discuss Items. Lost communications (FIH), OPNAV 3710.7 takeoff/approach minimums, flight planning (submit a completed DD-175 and jet log: stopover plus enroute holding delay (1<sup>st</sup> leg), terminal delay (2<sup>nd</sup> leg)), NOTAMS, enroute weather, and any emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4490</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/ Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4
12	Departure	4+
44	Radial Intercepts	4
45	Point-to-Point	4+
49	Holding	4+
50	Enroute Procedures	4+
51	Enroute Descent	4+
52	High-Altitude Approach	3
53	Teardrop Approach	4
54	Arcing Approach	4
55	HILLO Approach	4
56	Procedure Turn Approach	4
57	RVFAC Approach	4
58	GPS Approach	4
59	PAR Approach	4
60	ASR Approach	4
61	VOR Final	4
62	ILS Final	4

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4490</b>
63	LOC Final	4
64	GPS Final	4
65	Backup Flight Instrument Approach	3
66	Circling Approach	4
67	Missed Approach	4+

Blk #	Media	Title	Events	Hrs	H/X
I45	T-6B	Instrument Navigation USN/USMC Strike Top-off	2	3.0	1.5

1. Prerequisite. F1290 (Tactical Formation Exam).

2. Syllabus Notes

- a. USN/USMC Strike-selected students only.
- b. Events will be flown from the front cockpit.
- c. Students will train and practice single-seat procedures.
- d. Events should be flown within the high-altitude structure. If available, high-altitude approaches should be used.
- e. All instrument approaches will be flown at 200-250 KIAS with a transition to BAC within 5 NM prior to the FAF using PCL idle and speed brake. All other procedures remain the same as previous Instrument blocks.
- f. Events should be flown as an out-and-in or cross-country.
- g. A minimum of two instrument approaches should be flown on each event.
- h. Flight planning for all events in this block shall include a completed jet log, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.
- i. The T-6B HUD is not FAA certified for flight in IMC; however, in this block of training, it may be used when flying in VMC.

3. Special Syllabus Requirements. None.

4. Discuss Items

I4501

Instrument approaches flown at higher speeds, single seat procedures, HUD, and high-altitude structure.

I4502

Any previously discussed procedure and any emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4502</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
44	Radial Intercepts	4
45	Point-to-Point	4
49	Holding	4+
50	Enroute Procedures	4+
51	Enroute Descent	4+
52	High-Altitude Approach	3
53	Teardrop Approach	4
54	Arcing Approach	4
55	HILO Approach	4
56	Procedure Turn Approach	4
57	RVFAC Approach	4
58	GPS Approach	4
59	PAR Approach	4

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>I4502</b>
60	ASR Approach	4
61	VOR Final	4
62	ILS Final	4
63	LOC Final	4
64	GPS Final	4
65	Backup Flight Instrument Approach	3
66	Circling Approach	4
67	Missed Approach	4+
68	Transition to Landing/Landing	4

Chapter VI

Navigation Training

1. Seating. Students shall occupy the front seat for all events in the stage.
2. HUD. Students should use the HUD for Navigation and Low-Level events, if available.
3. Matrices. The following matrices present an overview of the entire Navigation (VFR) and Low-Level Stage. The purpose of these matrices is to provide the student and IP the easiest way to track progress, regression, and overall status in relation to the MIF.

4. Navigation MIF

Simulator/Device Event

<b>NAVIGATION MANEUVER ITEM FILE</b>					
<b>CTS REF</b>	<b>MANEUVER</b>	<b>N3101</b>	<b>N3201</b>	<b>N4101</b>	<b>N4201</b>
1	General Knowledge/Procedures	3+	3+	4+	4+
2	Emergency Procedures	4+	4+	4+	4+
3	Headwork/Situational Awareness	3+	3+	4+	4+
4	Basic Airwork	4+	4+	4+	4+
5	In-flight Checks/Fuel Management	3+	3+	4+	4+
6	In-flight Planning/Area Orientation	3+	3+	4+	4+
7	Task Management	3+	3+	4+	4+
8	Communication	3+	3+	4+	4+
9	Mission Planning/Briefing/Debriefing	3+	3+	4+	4+
10	Ground Operations	4	4	4+	4+
11	Takeoff	4+	4+	4+	4+
12	Departure	3+	3+	4+	4+
70	Route Management	3+	3+	4+	4+
35	Arrival/Course Rules	3+	3+	3+	3+
36	Landing Pattern	4+	4+	4+	4+
37	No-Flap Landing	3	3	3	3
37	Takeoff Flap Landing	3	3	3	3
37	LDG Flap Landing	3	3	3	3
73	ATIS/PMSV/FSS/Weather	3+	3+	4+	4+

5. Low-Level MIF

█ Simulator/Device Event

<b>LOW-LEVEL MANEUVER ITEM FILE</b>			
<b>CTS REF</b>	<b>MANEUVER</b>	<b>L3101</b>	<b>L4102</b>
1	General Knowledge/Procedures	3+	4+
2	Emergency Procedures	4+	4+
3	Headwork/Situational Awareness	3+	4+
4	Basic Airwork	4+	4+
5	In-flight Checks/Fuel Management	3+	4+
6	In-flight Planning/Area Orientation	3+	4+
7	Task Management	3+	4+
8	Communication	3+	4+
9	Mission Planning/Briefing/ Debriefing	3+	4+
10	Ground Operations	4	4+
11	Takeoff	4+	4+
12	Departure	4+	4+
69	Route Entry/Exit	3+	3+
70	Route Management	3+	4+
71	Standard Time Corrections	3+	3+
72	Standard Course Corrections	3+	3+
35	Arrival/Course Rules	3+	3+
36	Landing Pattern	4+	4+
37	No-Flap Landing	3	3
37	Takeoff Flap Landing	3	3
37	LDG Flap Landing	3	3
73	ATIS/PMSV/FSS/Weather	3+	4+

Blk #	Media	Title	Events	Hrs	Blk Name
NA11/LL11	CAI/ MIL	Navigation (VFR)	10	14.3	See Below

1. Prerequisites

- a. C4801.
- b. NA1101-6 (in order) prior to NA1190.
- c. NA1190 prior to LL1101.
- d. LL1101-2 in order and prior to LL1190.

2. Events

NA1101	CAI	VFR Mission Planning		1.5	NA
NA1102	CAI	Lost Procedures		0.5	NA
NA1103	CAI	VFR Arrivals		1.5	NA
NA1104	CAI	Strange Field Procedures		0.5	NA
NA1105	MIL	VFR Navigation Review		1.8	NA
NA1106	Offline MIL	VFR Navigation Planning Lab		2.0	NA
NA1190	CAI Test	VFR Navigation Exam		1.0	NA
LL1101	CAI	Low-Level Navigation		1.5	LL
LL1102	MIL	Low-Level Planning Lab		3.0	LL
LL1190	P/P Exam	Low-Level Exam		1.0	LL

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
N31	OFT	Day Navigation	1	1.3	1.3

1. Prerequisite. NA1190 (VFR Navigation Exam).
2. Syllabus Note. Flight planning for this event shall include a completed jet log, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.
3. Special Syllabus Requirements. None.
4. Discuss Items. VFR chart preparation, emergency field selection, airspace classification, VFR field entry/departure (AIM), HUD, and any applicable day emergency.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>N3101</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	3+
70	Route Management	3+
35	Arrival/Course Rules	3+
36	Landing Pattern	4+
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
73	ATIS/PMSV/FSS/Weather	3+

Blk #	Media	Title	Events	Hrs	H/X
N32	OFT	Night Navigation	1	1.3	1.3

1. Prerequisite. N3101.
2. Syllabus Note. Flight planning for this event shall include a completed jet log, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.
3. Special Syllabus Requirements. None.
4. Discuss Items. Night visual navigation procedures, night VFR chart interpretation, local night VNAV SOPs, HUD, and any applicable night emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>N3201</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	3+
70	Route Management	3+
35	Arrival/Course Rules	3+
36	Landing Pattern	4+
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
73	ATIS/PMSV/FSS/Weather	3+

Blk #	Media	Title	Events	Hrs	H/X
N41	T-6B	Day Navigation	1	1.7	1.7

1. Prerequisite. N3101.

2. Syllabus Notes

a. Flight planning for this event shall include a completed jet log, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.

b. Student shall accomplish a minimum of three landings on this event.

c. Fly VFR no lower than 1,000 feet AGL.

3. Special Syllabus Requirements. None.

4. Discuss Items. VFR chart preparation, emergency field selection, destination maintenance facilities and operating procedures, airspace classification, and VFR field entry/departure (AIM), HUD, any applicable day emergency, and local cross-country SOP.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>N4101</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
70	Route Management	4+
35	Arrival/Course Rules	3+
36	Landing Pattern	4+
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
73	ATIS/PMSV/FSS/Weather	4+

Blk #	Media	Title	Events	Hrs	H/X
N42	T-6B	Night Navigation	1	1.7	1.7

1. Prerequisites

- a. N3201.
- b. C4901.

2. Syllabus Notes

a. Flight planning for this event shall include a completed jet log, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.

b. Student shall accomplish a minimum of three landings on this event.

c. Fly VFR no lower than 2,000 feet AGL.

3. Special Syllabus Requirements. None.

4. Discuss Items. Night visual navigation procedures, night VFR chart interpretation, local night SOPs, HUD, and applicable night emergency.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>N4201</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
70	Route Management	4+
35	Arrival/Course Rules	3+
36	Landing Pattern	4+
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
73	ATIS/PMSV/FSS/Weather	4+

Blk #	Media	Title	Events	Hrs	H/X
L31	OFT	Low-Level	1	1.3	1.3

1. Prerequisites

- a. LL1190 (Low-Level Exam).
- b. N3101.

2. Syllabus Notes

a. Accomplish this lesson between 1,500 and 500 feet AGL. Fly the initial portion no lower than 1,000 feet AGL. Step down to lower altitudes during the latter portion of the mission to show the loss of in-flight visual range associated with flying at 500 feet AGL.

b. Flight planning for this event shall include a completed jet log, low-level chart, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.

3. Special Syllabus Requirements. None.

4. Discuss Items. Low-level chart preparation, AP-1B, BASH, FMS procedures, emergency field selection, airspace classification, route entry/exit, route management, standard time corrections, standard course corrections, HUD, and any applicable day emergency.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>L3101</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	4+
69	Route Entry/Exit	3+
70	Route Management	3+
71	Standard Time Corrections	3+
72	Standard Course Corrections	3+
35	Arrival/Course Rules	3+
36	Landing Pattern	4+
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
73	ATIS/PMSV/FSS/Weather	3+

Blk #	Media	Title	Events	Hrs	H/X
L41	T-6B	Low-Level	2	3.2	1.6

1. Prerequisites

- a. L3101.
- b. N4101.

2. Syllabus Notes

a. The squadron manages the process to ensure students prepare charts for low-level missions and has an established process to ensure all critical information on the IP and students charts is identical prior to flying these events.

b. Fly the first event on a local low-level route. Fly the first portion of the low-level no lower than 1,000 feet AGL. Step down to lower altitudes on subsequent legs if proficiency is demonstrated in altitude awareness/control, heading control, airspeed control, and aircraft location.

c. Instructors demonstrate low-level navigation for the initial portion of L4101 before requiring the student to both fly and navigate.

d. IPs use the GPS to maintain their situational awareness on all low levels; IPs may introduce GPS usage on L4102.

e. Flight planning for the events in this block shall include a completed jet log, low-level chart, DD-175, DD-175-1 weather brief, NOTAMS, and BASH conditions.

3. Special Syllabus Requirements. None.

4. Discuss Items

L4101

Low-level chart preparation, FMS procedures, emergency field selection, route entry/exit, route management, standard time corrections, standard course corrections, VFR field entry/departure (AIM), HUD, and any applicable day emergency.

L4102

Task management, effects of airspeed, altitude, G-forces, and bank angle in relation to time-to-impact.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>L4102</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
69	Route Entry/Exit	3+
70	Route Management	4+
71	Standard Time Corrections	3+
72	Standard Course Corrections	3+
35	Arrival/Course Rules	3+
36	Landing Pattern	4+
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
73	ATIS/PMSV/FSS/Weather	4+

Chapter VII

Formation Training

1. Seating. Students shall occupy the front seat for all events in the stage.
2. HUD. The HUD should be used on F44/45/46 blocks, if available.
3. Matrices. The following matrices are an overview of the entire Formation Stage, except the USN/USMC Strike Top-off Tactical Formation block. Refer to the block MIF for F44 block. The purpose of these matrices is to provide the student and IP the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.
4. Formation Stage MIF

Simulator/Device Event

<b>FORMATION STAGE MANEUVER ITEM FILE</b>					
<b>CTS REF</b>	<b>MANEUVER</b>	<b>F3101</b>	<b>F4104</b>	<b>F4203</b>	<b>F4301</b>
1	General Knowledge/Procedures	3+	4+	4+	4
2	Emergency Procedures	3+	3+	3+	3
3	Headwork/Situational Awareness	3+	3+	3+	3
4	Basic Airwork	3+	4+	4+	4
5	In-flight Checks/Fuel Management	2+	3+	4+	4
6	In-flight Planning/Area Orientation	3	4+	4+	4
7	Task Management	3+	3+	4+	4
8	Communication	2+	3+	4+	4
10	Ground Operations		4+	4+	4
74	Lead Change	2	3+	3+	3
75	Visual Signals	2+	4+	4+	4
13	G-Awareness/Exercise			4+	

MIF continued on next page.

<b>FORMATION STAGE MANEUVER ITEM FILE</b>					
<b>CTS REF</b>	<b>MANEUVER</b>	<b>F3101</b>	<b>F4104</b>	<b>F4203</b>	<b>F4301</b>
32	Precautionary Emergency Landing		3	3+	
33	PEL/P		3	3+	
36	Landing Pattern	4	4+	4+	4
37	No-Flap Landing	3	3	3	3
37	Takeoff Flap Landing	3	3	3	3
37	LDG Flap Landing	3	3	3	3
	<b>Formation Lead</b>				
78	Wingman Consideration		3+	3+	3
76	Section Takeoff			2	
77	Interval Takeoff/Rendezvous		3+	4+	4
12	Departure		3+	4+	4
85	Breakup and Rendezvous		3+	3+	3
35	Arrival/Course Rules		3+	4+	4
90	Formation Approach		2	2	
	<b>Formation Wingman</b>				
76	Section Takeoff			2	
77	Interval Takeoff/Rendezvous	2+	3+	4+	4
79	Parade (Straight-and-Level)	2+	3+	3+	3
80	Parade/Turns Into	2+	3+	3+	3
81	Parade/Turns Away (IFR)	2+	3+	3+	3
82	Parade/Turns Away (VFR)	2+	3+	3+	3
84	Crossunder	2+	3+	3+	3
85	Breakup and Rendezvous	2+	3+	3+	3
86	Running Rendezvous	2+	3+	3+	3
87	Underrun	2+	3+	3+	3
88	Cruise Maneuvering			2+	
89	Tail-Chase			2+	
90	Formation Approach		2	2+	
	Special Syllabus Requirements		1		

5. AF Formation Top-off Student Syllabus Management. The AF Formation Top-off Syllabus is designed to prepare USAF students for advanced USAF training and contains basic AF formations, AF formation procedures, and three-dimensional maneuvering.

6. USN/USMC Strike Top-off, Tactical Formation Stage MIF. See Block MIF.

7. AF Formation Top-off Stage MIF

Check Flight Event

<b>AF FORMATION TOP-OFF STAGE MANEUVER ITEM FILE</b>			
<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4505</b>	<b>F4690</b>
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
3	Headwork/Situational Awareness	4+	4+
4	Basic Airwork	4+	4+
5	In-flight Checks/Fuel Management	4+	4+
6	In-flight Planning/Area Orientation	3+	3+
7	Task Management	3+	3+
8	Communication	4+	4+
9	Mission Planning/Briefing/Debriefing	3+	3+
10	Ground Operations	4+	4+
74	Lead Change (Position Change)	4+	4+
75	Visual Signals	4+	4+
13	G-Awareness/Exercise	3+	3+
100	Clearing/Visual Lookout	4+	4+
36	Landing Pattern	4	4
101	AF Pattern Operations	3+	3
37	No-Flap Landing	4	4
37	Takeoff Flap Landing	4	4
37	LDG Flap Landing	4	4

MIF continued on next page.

<b>AF FORMATION TOP-OFF STAGE MANEUVER ITEM FILE</b>			
<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4505</b>	<b>F4690</b>
	<b>Formation Lead</b>		
78	Wingman Consideration	3+	3+
76	Section Takeoff	3+	3
77	Interval Takeoff/Rendezvous	3	3
12	Departure	4+	4
102	Pitchout/Rejoin	4	4
97	Wingwork	3+	3+
98	Extended Trail - Level 1	4+	4
98	Extended Trail - Level 2	4+	4
98	Extended Trail - Level 3	3+	3
91	Tactical Formation	3	3
94	Echelon	3+	3+
83	Lost Wingman Exercise	3+	3
103	Enroute Descent/Letdown/Radar Vectors	4+	4
104	VFR Arrival/Traffic Entry	4	4
90	Formation Approach	2+	2
105	Formation Landing (USAF)	2	2
	<b>Formation Wing</b>		
76	Section Takeoff	3+	3
77	Interval Takeoff/Rendezvous	3	3
79	Parade/Fingertip	4+	4+
93	Route	4+	4+
94	Echelon	3+	3+
83	Lost Wingman Exercise	3+	3
84	Crossunder	4+	4+
95	Straight Ahead Rejoin	4+	4
96	Turning Rejoin	4+	4+
106	Overshoot	4	4
107	Breakout	4+	4

MIF continued on next page.

<b>AF FORMATION TOP-OFF STAGE MANEUVER ITEM FILE</b>			
<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4505</b>	<b>F4690</b>
97	Wingwork	3+	3+
98	Extended Trail - Level 1	4	4
98	Extended Trail - Level 2	4+	4
98	Extended Trail - Level 3	3+	3
91	Tactical Turn - Delayed 90	3	3
91	Tactical Turn - Delayed 45	3	3
91	Tactical Turn - In-place	3	3
91	Tactical Turn - Hook Turns	3	3
91	Tactical Turn - Cross-Turns	3	3
91	Tactical Turn - Shackle	3	3
108	Tactical Rejoin	3	3
90	Formation Approach	2+	2
105	Formation Landing (USAF)	2	2
	<b>Miscellaneous</b>		
92	Knock-It-Off Procedures	4	4
	Special Syllabus Requirements	1	

Blk #	Media	Title	Events	Hrs	Blk Name
F11	MIL/CAI	Formation	2	5.5	FFP

1. Prerequisites

- a. C4501.
- b. F1101 prior to F1190.

2. Events

F1101	Offline MIL	Formation Procedures		4.5	
F1190	CAI Test	Formation Exam		1.0	

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
F12	Class	Tactical Formation	2	2.5	TFFP

1. Prerequisites

- a. USN/USMC Strike Selection.
- b. F1201 prior to F1290.

2. Events

F1201	Lect	Tactical Formation Flight Procedures		1.5	
F1290	P/P Exam	Tactical Formation Exam		1.0	

3. Syllabus Note. USN/USMC Strike-selected students only.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
F13	Class	AF Formation	2	4.0	AFFP
1.	<u>Prerequisite.</u>	F1301 prior to F1390.			
2.	<u>Events</u>				
F1301	Lect	AF Formation Flight Procedures		3.0	
F1390	P/P Exam	AF Formation Exam		1.0	
3.	<u>Syllabus Note.</u>	USAF students only.			
4.	<u>Discuss Items.</u>	None.			

Blk #	Media	Title	Events	Hrs	H/X
F31	OFT	Formation	1	1.3	1.3

1. Prerequisite. F1190 (Formation Exam).
2. Syllabus Notes. None.
3. Special Syllabus Requirements. None.
4. Discuss Items. Visual signals and Formation maneuvers.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F3101</b>
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	3+
5	In-flight Checks/Fuel Management	2+
6	In-flight Planning/Area Orientation	3
7	Task Management	3+
8	Communication	2+
74	Lead Change	2
75	Visual Signals	2+
36	Landing Pattern	4
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
	<b>Formation Wingman</b>	
77	Interval Takeoff/Rendezvous	2+
79	Parade (Straight-and-Level)	2+
80	Parade/Turns Into	2+
81	Parade/Turns Away (IFR)	2+
82	Parade/Turns Away (VFR)	2+
84	Crossunder	2+
85	Breakup and Rendezvous	2+
86	Running Rendezvous	2+
87	Underrun	2+

Blk #	Media	Title	Events	Hrs	H/X
F41	T-6B	Formation	4	6.4	1.6

1. Prerequisite. F3101.
2. Syllabus Note. All events shall be flown from the front cockpit.
3. Special Syllabus Requirements  
F4102  
IP demonstrates and student practices wingman use of speed brake.
4. Discuss Items  
F4101  
Hand signals, wingman/flight leader responsibilities, aborted takeoff, lost sight procedures, HEFOE, and any emergency procedure.  
F4102  
Airborne damaged aircraft, lost communication procedures, wingman use of speed brake, and any emergency procedure.  
F4103  
PPEL, emergency field selection, landing gear inspection, and any emergency procedure.  
F4104  
Any previously discussed formation maneuver, and any emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4104</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	4+
7	Task Management	3+
8	Communication	3+
10	Ground Operations	4+
74	Lead Change	3+
75	Visual Signals	4+
32	Precautionary Emergency Landing	3
33	PEL/P	3
36	Landing Pattern	4+
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
	<b>Formation Lead</b>	
78	Wingman Consideration	3+
77	Interval Takeoff/Rendezvous	3+
12	Departure	3+
85	Breakup and Rendezvous	3+
35	Arrival/Course Rules	3+
90	Formation Approach	2
	<b>Formation Wingman</b>	
77	Interval Takeoff/Rendezvous	3+
79	Parade (Straight-and-Level)	3+
80	Parade/Turns Into	3+
81	Parade/Turns Away (IFR)	3+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4104</b>
82	Parade/Turns Away (VFR)	3+
84	Crossunder	3+
85	Breakup and Rendezvous	3+
86	Running Rendezvous	3+
87	Underrun	3+
90	Formation Approach	2
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
F42	T-6B	Formation	3	4.8	1.6

1. Prerequisites

a. F4104.

b. C4801.

2. Syllabus Notes

a. All events shall be flown from the front cockpit.

b. There is no requirement for the student to lead an approach; therefore, the lead aircraft IP may fly the aircraft during the approach. The lead student may fly the approach if I4204 complete.

c. Student shall accomplish at least one section takeoff as Lead or Wing.

3. Special Syllabus Requirements. None.

4. Discuss Items

F4201

Cruise position/maneuvering, tail chase, lead/lag and pure pursuit, AGSM, section takeoff, blind procedures, and knock-it-off/terminate procedures.

F4202

Section ELP procedures, section approach procedures, and Formation safe-for-solo requirements.

F4203

Inadvertent instrument flight, lost sight procedures, and any emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4203</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
10	Ground Operations	4+
74	Lead Change	3+
75	Visual Signals	4+
13	G-Awareness/Exercise	4+
32	Precautionary Emergency Landing	3+
33	PEL/P	3+
36	Landing Pattern	4+
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
	<b>Formation Lead</b>	
78	Wingman Consideration	3+
76	Section Takeoff	2
77	Interval Takeoff/Rendezvous	4+
12	Departure	4+
85	Breakup and Rendezvous	3+
35	Arrival/Course Rules	4+
90	Formation Approach	2
	<b>Formation Wingman</b>	
76	Section Takeoff	2
77	Interval Takeoff/Rendezvous	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4203</b>
79	Parade (Straight-and-Level)	3+
80	Parade/Turns Into	3+
81	Parade/Turns Away (IFR)	3+
82	Parade/Turns Away (VFR)	3+
84	Crossunder	3+
85	Breakup and Rendezvous	3+
86	Running Rendezvous	3+
87	Underrun	3+
88	Cruise Maneuvering	2+
89	Tail-Chase	2+
90	Formation Approach	2+

Blk #	Media	Title	Events	Hrs	H/X
F43	T-6B	Formation Solo Flight	1	1.6	1.6

1. Prerequisite. F4203.

2. Syllabus Notes

a. F4301 should be solo. In unusual circumstances, this event may be flown with an IP acting as a safety observer.

b. Student solos shall not perform a section takeoff, cruise maneuvering, tail-chase, or section approaches.

3. Special Syllabus Requirements. None.

4. Discuss Items. Any previously discussed maneuver and any emergency procedure.

5. Block MIF

CTS REF	MANEUVER	F4301
1	General Knowledge/Procedures	4
2	Emergency Procedures	3
3	Headwork/Situational Awareness	3
4	Basic Airwork	4
5	In-flight Checks/Fuel Management	4
6	In-flight Planning/Area Orientation	4
7	Task Management	4
8	Communication	4
10	Ground Operations	4
74	Lead Change	3
75	Visual Signals	4
36	Landing Pattern	4
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4301</b>
	<b>Formation Lead</b>	
78	Wingman Consideration	3
77	Interval Takeoff/Rendezvous	4
12	Departure	4
85	Breakup and Rendezvous	3
35	Arrival/Course Rules	4
	<b>Formation Wingman</b>	
77	Interval Takeoff/Rendezvous	4
79	Parade (Straight-and-Level)	3
80	Parade/Turns Into	3
81	Parade/Turns Away (IFR)	3
82	Parade/Turns Away (VFR)	3
84	Crossunder	3
85	Breakup and Rendezvous	3
86	Running Rendezvous	3
87	Underrun	3

Blk #	Media	Title	Events	Hrs	H/X
F44	T-6B	Tactical Formation	4	6.0	1.5

1. Prerequisite. F1290 (Tactical Formation Exam).
2. Syllabus Notes
  - a. USN/USMC Strike-selected students only.
  - b. Student will fly one formation approach as lead and one as wingman within the block.
3. Special Syllabus Requirements. None.
4. Discuss Items

F4401

Tactical (combat) spread, in place (called/uncalled), shackle, cross turn, check turn, and tactical turns (called/uncalled).

F4402

Any previously discussed Formation procedure and any emergency procedure.

F4403

Section approach, any previously discussed Formation procedure, and any emergency procedure.

F4404

Any previously discussed Formation procedure and any emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4404</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
10	Ground Operations	4+
74	Lead Change	4+
75	Visual Signals	4+
13	G-Awareness/Exercise	4+
36	Landing Pattern	4+
37	No-Flap Landing	3
37	Takeoff Flap Landing	3
37	LDG Flap Landing	3
	<b>Formation Lead</b>	
78	Wingman Consideration	4+
76	Section Takeoff	3+
77	Interval Takeoff/Rendezvous	4
12	Departure	4+
85	Breakup and Rendezvous	4+
35	Arrival/Course Rules	4+
90	Formation Approach	3+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4404</b>
	<b>Formation Wingman</b>	
76	Section Takeoff	3+
77	Interval Takeoff/Rendezvous	4
79	Parade (Straight-and-Level)	4+
80	Parade/Turns Into	4+
81	Parade/Turns Away (IFR)	4+
82	Parade/Turns Away (VFR)	4+
84	Crossunder	4
85	Breakup and Rendezvous	4
86	Running Rendezvous	4
87	Underrun	4
88	Cruise Maneuvering	3
89	Tail-Chase	3
90	Formation Approach	3+
91	Tactical Spread	3+
91	Tactical - In Place (Called/Uncalled)	3+
91	Tactical - Shackle	3+
91	Tactical - Cross Turn	3+
91	Tactical - Check Turn	3+
91	Tactical Turns (Called/Uncalled)	3+

Blk #	Media	Title	Events	Hrs	H/X
F45	T-6B	AF Formation	5	8.0	1.6

1. Prerequisite. F1390 (AF Formation Exam).

2. Syllabus Notes

a. Objectives: Develop advanced formation skills and improve basic formation capabilities. Introduce USAF formation visual signals and procedures.

b. Students shall occupy the front seat for all events.

c. Focus on student weak areas, emphasizing service-specific formation positions, visual signals, and deconfliction procedures.

d. Demonstrate from the wing position the understanding and application of the concepts of: aspect angle, heading crossing angle, line of sight, etc., as they relate to basic rejoins and extended trail maneuvering levels 1, 2, and 3.

e. Demonstrate the ability to lead the formation through close and advanced formation maneuvers while monitoring energy, wingman, and area boundaries.

f. USAF standup emergency procedures shall be used for flight briefs.

g. The student shall fly at least one formation approach as lead and one as wing. Recoveries should be accomplished from an instrument approach to the maximum extent possible.

h. If fallout occurs, a maximum of one event may be accomplished single ship with focus on single-seat instrument procedures, USAF pattern procedures, and aerobatics.

3. Special Syllabus Requirements

F4501

Blind exercise.

F4502  
Formation low approach/go-around.

4. Discuss Items

F4501  
AF formation positions, AF visual signals, flight path deconfliction, and blind situations.

F4502  
Knock-it-off and breakout.

F4503-5  
Any previous discussion item and/or emergency procedure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4505</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4+
74	Lead Change (Position Change)	4+
75	Visual Signals	4+
13	G-Awareness/Exercise	3+
100	Clearing/Visual Lookout	4+
36	Landing Pattern	4
101	AF Pattern Operations	3+
37	No-Flap Landing	4

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4505</b>
37	Takeoff Flap Landing	4
37	LDG Flap Landing	4
	<b>Formation Lead</b>	
78	Wingman Consideration	3+
76	Section Takeoff	3+
77	Interval Takeoff/Rendezvous	3
12	Departure	4+
102	Pitchout/Rejoin	4
97	Wingwork	3+
98	Extended Trail - Level 1	4+
98	Extended Trail - Level 2	4+
98	Extended Trail - Level 3	3+
91	Tactical Formation	3
94	Echelon	3+
83	Lost Wingman Exercise	3+
103	Enroute Descent/Letdown/Radar Vectors	4+
104	VFR Arrival/Traffic Entry	4
90	Formation Approach	2+
105	Formation Landing (USAF)	2
	<b>Formation Wing</b>	
76	Section Takeoff	3+
77	Interval Takeoff/Rendezvous	3
79	Parade/Fingertip	4+
93	Route	4+
94	Echelon	3+
83	Lost Wingman Exercise	3+
84	Crossunder	4+
95	Straight Ahead Rejoin	4+
96	Turning Rejoin	4+
106	Overshoot	4

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4505</b>
107	Breakout	4+
97	Wingwork	3+
98	Extended Trail - Level 1	4
98	Extended Trail - Level 2	4+
98	Extended Trail - Level 3	3+
91	Tactical Turn - Delayed 90	3
91	Tactical Turn - Delayed 45	3
91	Tactical Turn - In-place	3
91	Tactical Turn - Hook Turns	3
91	Tactical Turn - Cross-Turns	3
91	Tactical Turn - Shackle	3
108	Tactical Rejoin	3
90	Formation Approach	2+
105	Formation Landing (USAF)	2
	<b>Miscellaneous</b>	
92	Knock-It-Off Procedures	4
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
F46	T-6B	AF Formation Check Flight	1	1.7	1.7

1. Prerequisite. F4505.

2. Syllabus Notes

a. Objective: Validate proficiency in formation procedures and maneuvers.

b. Note: All check profiles must contain extended trail level 3 (weather permitting) from both the lead and wing positions.

3. Special Syllabus Requirements. None.

4. Discuss Items. Any previous discussion item and any emergency procedure.

5. Block MIF

CTS REF	MANEUVER	F4690
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Airwork	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4+
74	Lead Change (Position Change)	4+
75	Visual Signals	4+
13	G-Awareness/Exercise	3+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4690</b>
100	Clearing/Visual Lookout	4+
36	Landing Pattern	4
101	AF Pattern Operations	3
37	No-Flap Landing	4
37	Takeoff Flap Landing	4
37	LDG Flap Landing	4
	<b>Formation Lead</b>	
78	Wingman Consideration	3+
76	Section Takeoff	3
77	Interval Takeoff/Rendezvous	3
12	Departure	4
102	Pitchout/Rejoin	4
97	Wingwork	3+
98	Extended Trail - Level 1	4
98	Extended Trail - Level 2	4
98	Extended Trail - Level 3	3
91	Tactical Formation	3
94	Echelon	3+
83	Lost Wingman Exercise	3
103	Enroute Descent/Letdown/Radar Vectors	4
104	VFR Arrival/Traffic Entry	4
90	Formation Approach	2
105	Formation Landing (USAF)	2
	<b>Formation Wing</b>	
76	Section Takeoff	3
77	Interval Takeoff/Rendezvous	3
79	Parade/Fingertip	4+
93	Route	4+
94	Echelon	3+
83	Lost Wingman Exercise	3

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>F4690</b>
84	Crossunder	4+
95	Straight Ahead Rejoin	4
96	Turning Rejoin	4+
106	Overshoot	4
107	Breakout	4
97	Wingwork	3+
98	Extended Trail - Level 1	4
98	Extended Trail - Level 2	4
98	Extended Trail - Level 3	3
91	Tactical Turn - Delayed 90	3
91	Tactical Turn - Delayed 45	3
91	Tactical Turn - In-place	3
91	Tactical Turn - Hook Turns	3
91	Tactical Turn - Cross-Turns	3
91	Tactical Turn - Shackle	3
108	Tactical Rejoin	3
90	Formation Approach	2
105	Formation Landing (USAF)	2
	<b>Miscellaneous</b>	
92	Knock-It-Off Procedures	4

Chapter VIII

Tactical Training

This chapter does not apply to T-6B Primary Flight Training.

CNATRAINST 1542.166A  
6 Feb 12

BLANK PAGE

Chapter IX

Course Training Standards

1. Purpose. These standards outline the tasks and proficiency required of student aviators during Primary training. This training prepares an officer to perform the duties of a rated pilot.

2. Student Duties and Responsibilities

a. Plan the mission.

b. Ensure the aircraft is preflighted, inspected, and equipped for the assigned mission.

c. Operate the aircraft to accomplish the mission using sound judgment and airmanship.

3. General Standards

a. Achieve training standards for VMC maneuvers in conjunction with visual clearing.

b. Unless otherwise specified, use **Basic Airwork (BAW)** standards for all items with altitude, airspeed, or heading parameters.

c. "Standard" equates to **good** (G/4).

d. Aircraft control must be smooth and positive. Performance may be within CTS and still not warrant a grade of **good** if control inputs are delayed, erratic, imprecise, or inappropriate. Slight deviations in establishing or maintaining the proper or desired aircraft attitude or position may occur during the maneuver being performed.

e. Momentary deviations outside CTS that do not compromise flight safety are acceptable if subsequent corrections are timely.

f. Procedural knowledge and application must comply with applicable directives and allow efficient mission accomplishment. If individual tasks require pre-mission planning, the standards from **Mission Planning** apply.

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

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

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

6. Graded Items. The MIF for specific graded items varies for each stage. Several items are graded on all complete syllabus events. The standards for these Universally Graded Items are listed first. Then beginning with Contact, each stage's MIF table is listed followed by the CTSS unique to that stage. Once the standard for a graded item has been established, the description will be omitted from later stages where it is also graded.

7. Course Training Standards

UNIVERSALLY GRADED ITEMS

BEHAVIOR STATEMENT	STANDARDS
1. General Knowledge/Procedures	
<ul style="list-style-type: none"><li>● Demonstrate satisfactory knowledge of aircraft systems, procedures, flight training instructions, and directives.</li></ul>	<ul style="list-style-type: none"><li>● Demonstrate a thorough understanding of aircraft system capabilities, aircraft directives, and applicable instructions.</li><li>● Demonstrate the ability to apply procedures from all applicable sources of guidance.</li></ul>
2. Emergency Procedures	
<ul style="list-style-type: none"><li>● Maintain in-depth knowledge of NATOPS and appropriate directives.</li><li>● Perform critical/noncritical action emergency procedures.</li></ul>	<ul style="list-style-type: none"><li>● Correctly analyzes situation.</li><li>● Performs/recites critical action steps from memory.</li><li>● Uses checklist when conditions permit.</li><li>● Completes procedures in a timely manner.</li></ul>

BEHAVIOR STATEMENT	STANDARDS
3. Headwork/Situational Awareness	
<ul style="list-style-type: none"> <li>● Maintain situational awareness to include the following: <ul style="list-style-type: none"> <li>▶ Awareness - Correlates and keeps track of what is happening on the ground, in own aircraft, or with other flight members, and copes with subsequent mission impact as a result of their happenings.</li> <li>▶ Flexibility - Copes with rapidly changing situations or conditions in flight or on the ground, and adjusts mission as needed to obtain desired objectives.</li> <li>▶ Capacity - Cognizant of how large a task loading they can cope with before becoming saturated, confused, or frustrated to the point safety is jeopardized or the mission is rendered ineffective.</li> <li>▶ Flight Discipline - Follows orders and carries out all required steps in a procedure in the proper order.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Demonstrates the ability to minimize the effects of adverse factors and capitalizes on opportunities to avoid mission degradation. Factors to be considered may include, but are not limited to, weather conditions, airspace and approach restrictions, high-density traffic, aircraft capabilities and limitations, and fuel conservation.</li> <li>● Correctly assesses all possible factors bearing on the situation and selects the best course of action.</li> <li>● Makes correct decisions based on complete or incomplete knowledge of the situation. Foresees the outcome(s) of present actions and modifies those actions as necessary to obtain the best outcome.</li> <li>● Decisions enhance mission effectiveness and do not hinder others from completing their missions.</li> <li>● Never exceeds capabilities to control the aircraft safely. Selects an alternative course of action, when needed, to reduce task loading and allow for effective mission accomplishment.</li> <li>● Has complete knowledge of all rules and regulations and carries out all duties with minimum supervision.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
4. Basic Airwork	
<ul style="list-style-type: none"> <li>● Establish and maintain desired altitude, airspeed, and heading during flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains aircraft within 100 feet, 10 KIAS, 10° of heading.</li> <li>● Appropriately uses power, attitude, and trim.</li> <li>● Levels off within 100 feet of desired altitude.</li> <li>● Maintains smooth/positive control consistent with flight conditions.</li> <li>● Correctly uses trim system to maintain aircraft control.</li> </ul>
5. In-Flight Checks/Fuel Management	
<ul style="list-style-type: none"> <li>● Complete checks as required.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs: <ul style="list-style-type: none"> <li>▶ Operations checks at least every 20 minutes.</li> <li>▶ Before landing checklist at required configuration points.</li> <li>▶ Pre-stalling, spinning, and aerobatics checklist when required.</li> </ul> </li> <li>● Does not go below Joker or Bingo fuel without informing the flight leader as applicable.</li> </ul>
6. In-Flight Planning/Area Orientation	
<ul style="list-style-type: none"> <li>● Perform in-flight planning to include maintaining area orientation, profile management, energy management, and remaining within area limits.</li> </ul>	<ul style="list-style-type: none"> <li>● Efficiently sequences maneuvers.</li> <li>● Adjusts mission profile for external factors (weather, traffic, etc.).</li> <li>● Maintains positional awareness using ground references, navigational aids, VFR charts, or FLIPs.</li> <li>● Maintains appropriate boundaries and altitude block within a working area as required.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
7. Task Management	
<ul style="list-style-type: none"> <li>● Prioritize and manage tasks, based on existing and new information, while maintaining constructive behavior under stress.</li> </ul>	<ul style="list-style-type: none"> <li>● Correctly prioritizes multiple tasks.</li> <li>● Uses all available resources to manage workload.</li> <li>● Asks for assistance when overloaded.</li> <li>● Clearly states the problem and proposed solutions.</li> <li>● Uses facts to come up with solutions.</li> </ul>
8. Communication	
<ul style="list-style-type: none"> <li>● Perform verbal and visual communication to include:               <ul style="list-style-type: none"> <li>▶ Use of UHF/VHF radio.</li> <li>▶ Intercockpit and formation intraflight communications.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Correctly formulated, timely response with proper radio discipline and concise terminology.</li> <li>● Required radio calls made IAW FLIP requirements.</li> <li>● Visual signals IAW applicable directives.</li> </ul>
9. Mission Planning/Briefing/Debriefing	
<ul style="list-style-type: none"> <li>● Perform mission planning to include takeoff, climb, enroute, descent, approach, and landing data: planning mission profile and alternate course of action where appropriate.</li> <li>● Prepare flight log/chart/DD 175.</li> </ul>	<ul style="list-style-type: none"> <li>● Uses required directives and forms.</li> <li>● Plans mission in a timely manner to meet requirements.</li> <li>● Completes all forms correctly.</li> <li>● Complies with all directives.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
10. Ground Operations	
<ul style="list-style-type: none"> <li>● Inspect and wear personal equipment.</li> <li>● Prepare aircraft for flight.</li> <li>● Move aircraft to and from parking area to runway.</li> <li>● Perform postflight duties.</li> </ul>	<ul style="list-style-type: none"> <li>● Correctly inspects and wears personal equipment.</li> <li>● Correctly and expeditiously performs exterior inspection, prestart, start, taxi, before takeoff, lineup, and shutdown checklists.</li> <li>● Taxies safely via prescribed routing within three feet of centerline.</li> <li>● Completes all required forms IAW directives.</li> </ul>
11. Takeoff	
<ul style="list-style-type: none"> <li>● Perform takeoff to include: <ul style="list-style-type: none"> <li>▶ Checking aircraft performance by means of precomputed takeoff data.</li> <li>▶ Retracting gear/flaps.</li> <li>▶ Accelerate to climb airspeed.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Does not allow aircraft to move prior to brake release for takeoff.</li> <li>● Applies appropriate crosswind controls.</li> <li>● Maintains runway centerline within 10 feet.</li> <li>● Rotates to and maintains proper takeoff attitude, becomes airborne at appropriate airspeed for existing conditions.</li> <li>● Retracts gear and flaps when safely airborne and prior to exceeding aircraft limitations.</li> <li>● Transitions to cross-check scan.</li> </ul>
12. Departure	
<ul style="list-style-type: none"> <li>● Perform VFR, IFR, or simulated IFR departure.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains altitudes, ground tracks, headings, and airspeeds as required.</li> <li>● Complies with valid controller instructions or departure procedure.</li> </ul>

CONTACT

BEHAVIOR STATEMENT	STANDARDS
13. G-Awareness/Exercise	
<ul style="list-style-type: none"> <li>• Ensure proper anti-G suit operation. Perform G-awareness exercise and AGSM. Maintain awareness of G-loading through all maneuvers.</li> </ul>	<ul style="list-style-type: none"> <li>• Performs G-warmup and G-awareness turns IAW directives.</li> <li>• Performs proper AGSM.</li> <li>• Avoids exceeding aircraft G-limitations.</li> </ul>
14. Turn Pattern	
<ul style="list-style-type: none"> <li>• Perform turn pattern IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform within Basic Airwork CTS.</li> </ul>
15. Level Speed Change	
<ul style="list-style-type: none"> <li>• Perform level speed change IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform within Basic Airwork CTS.</li> </ul>
16. Slow Flight	
<ul style="list-style-type: none"> <li>• Perform slow flight IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>• Contact: Airspeed +5,-0 KIAS.</li> <li>• Maintains BAW.</li> </ul>
17. Power-on Stalls	
<ul style="list-style-type: none"> <li>• Perform power-on stalls IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>• Initiates recovery when control effectiveness is lost.</li> <li>• Recovers to an established climb with minimum altitude loss.</li> <li>• Recognizes secondary stall, if entered, and recovers properly.</li> </ul>
18. Landing Pattern Stalls	
<ul style="list-style-type: none"> <li>• Perform simulated landing pattern stalls in various configurations.</li> </ul>	<ul style="list-style-type: none"> <li>• Recognizes approach to stall indications and recovers properly.</li> <li>• Recovers to an established climb with minimum altitude loss.</li> <li>• Recognizes secondary stall, if entered, and recovers properly.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
19. Emergency Landing Pattern Stalls	
<ul style="list-style-type: none"> <li>● Perform emergency landing pattern stalls and recoveries in authorized configurations.</li> </ul>	<ul style="list-style-type: none"> <li>● Initiates recovery at the sound of the gear warning horn, stick shaker, or approach-to-stall indications as appropriate.</li> <li>● Recovers by lowering pitch as appropriate.</li> <li>● Maintains the turn or ground track profile as appropriate.</li> </ul>
20. Spin	
<ul style="list-style-type: none"> <li>● Spin and recover per FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs clearing turn and check list.</li> <li>● Properly enters spin IAW FTI.</li> <li>● Initiates proper recovery utilizing FTI Spin recovery (emphasizing departure recognition and recovery) procedures.</li> <li>● Recovers from ensuing unusual attitude without exceeding aircraft limitations.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
21. Contact Unusual Attitudes	
<ul style="list-style-type: none"> <li>● Recover from nose-high unusual attitude.</li>   <li>● Recover from nose-low unusual attitude.</li>   <li>● Recover from an inverted unusual attitude.</li> </ul>	<ul style="list-style-type: none"> <li>● Nose-High: <ul style="list-style-type: none"> <li>▶ Minimizes airspeed loss during recovery.</li> <li>▶ Does not: <ul style="list-style-type: none"> <li>■ Overstress or stall aircraft.</li> <li>■ Enter subsequent unusual attitude.</li> </ul> </li> </ul> </li> <li>● Nose-Low: <ul style="list-style-type: none"> <li>▶ Minimizes altitude loss and airspeed buildup during recovery.</li> <li>▶ Does not: <ul style="list-style-type: none"> <li>■ Overstress or stall aircraft.</li> <li>■ Enter subsequent unusual attitude.</li> </ul> </li> </ul> </li> <li>● Inverted: <ul style="list-style-type: none"> <li>▶ Minimizes altitude loss and airspeed buildup during recovery.</li> <li>▶ Does not: <ul style="list-style-type: none"> <li>■ Overstress or stall aircraft.</li> <li>■ Enter subsequent unusual attitude.</li> <li>■ Split-S.</li> </ul> </li> </ul> </li> </ul>
22. Loop	
<ul style="list-style-type: none"> <li>● Perform a loop IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Initiates using 4 ±1 G.</li> <li>● Completes within: <ul style="list-style-type: none"> <li>▶ 200 feet of entry altitude.</li> <li>▶ ±10° of entry heading.</li> </ul> </li> </ul>
23. Aileron Roll	
<ul style="list-style-type: none"> <li>● Perform an aileron roll IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains minimum yaw during roll.</li> <li>● Rolls out with less than 5° AOB.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
24. Split-S	
<ul style="list-style-type: none"> <li>● Perform a split-S per the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Initiates at:               <ul style="list-style-type: none"> <li>▶ 120-140 KIAS.</li> <li>▶ 5-10 degrees nose high.</li> </ul> </li> <li>● Recovers within:               <ul style="list-style-type: none"> <li>▶ 2500-3000 feet below entry altitude.</li> <li>▶ 20° of reciprocal heading.</li> </ul> </li> </ul>
25. Barrel Roll	
<ul style="list-style-type: none"> <li>● Perform a barrel roll per the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Does not exceed 2.5 Gs.</li> <li>● Arrives at 45° position:               <ul style="list-style-type: none"> <li>▶ 80-100 degrees AOB.</li> <li>▶ 55-60 degrees nose high.</li> </ul> </li> <li>● Arrives at 90° position:               <ul style="list-style-type: none"> <li>▶ Nose 10-20 degrees above the horizon.</li> <li>▶ 170-190 degrees AOB.</li> <li>▶ 100-120 KIAS.</li> <li>▶ 80-90 degrees of entry heading.</li> </ul> </li> <li>● Completes within:               <ul style="list-style-type: none"> <li>▶ 200 feet of entry altitude.</li> <li>▶ 10° of entry heading.</li> </ul> </li> </ul>
26. Cloverleaf	
<ul style="list-style-type: none"> <li>● Perform cloverleaf IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Arrives at 45° position:               <ul style="list-style-type: none"> <li>▶ 80-100 degrees AOB.</li> <li>▶ 55-60 degrees nose high.</li> </ul> </li> <li>● Arrives at 90° position:               <ul style="list-style-type: none"> <li>▶ Nose 10-20 degrees above the horizon.</li> <li>▶ 170-190 degrees AOB.</li> <li>▶ 100-120 KIAS.</li> <li>▶ 80-90 degrees of entry heading.</li> </ul> </li> <li>● Completes within 20° of entry heading.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
27. Immelmann	
<ul style="list-style-type: none"> <li>● Perform Immelmann per the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Initiates using 4 ±1 G.</li> <li>● Completes within:               <ul style="list-style-type: none"> <li>▶ 100-120 KIAS.</li> <li>▶ 20° of reciprocal heading.</li> <li>▶ 2500-3000 feet above entry altitude.</li> </ul> </li> </ul>
28. Cuban Eight	
<ul style="list-style-type: none"> <li>● Perform half-Cuban eight per the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Initiates using 4 ±1 G.</li> <li>● Completes within:               <ul style="list-style-type: none"> <li>▶ 200 feet of entry altitude.</li> <li>▶ 20° of reciprocal heading.</li> </ul> </li> </ul>
29. Wingover	
<ul style="list-style-type: none"> <li>● Perform a wingover IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Does not exceed:               <ul style="list-style-type: none"> <li>▶ 2.5 Gs.</li> <li>▶ 90° AOB.</li> </ul> </li> <li>● Arrives at 90° position:               <ul style="list-style-type: none"> <li>▶ 80-90 degrees AOB.</li> <li>▶ 85-95 degrees from entry heading.</li> </ul> </li> <li>● Arrives at level-flight position within:               <ul style="list-style-type: none"> <li>▶ 200 feet of entry altitude.</li> <li>▶ 10° of reciprocal heading.</li> </ul> </li> </ul>
30. Slip	
<ul style="list-style-type: none"> <li>● Perform a slip IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Uses proper cross-control procedures.</li> <li>● Terminates slip after dissipating excess energy level necessary to continue profile.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
31. Power Loss (Engine Failure)	
<ul style="list-style-type: none"> <li>● Perform simulated emergency IAW NATOPS/FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Formulates plan to intercept ELP profile and executes successfully.</li> <li>● Flies correct checkpoints on ELP.</li> <li>● Establishes aircraft on final in position to make a safe landing at the selected site.</li> <li>● If no suitable site for forced landing is available, verbalizes controlled ejection procedures.</li> </ul>
32. Precautionary Emergency Landing	
<ul style="list-style-type: none"> <li>● In response to simulated emergency procedure, proceed to high key for the nearest suitable runway, then intercept the ELP.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs timely procedural execution.</li> <li>● Selects nearest suitable runway and appropriate high-key.</li> <li>● Maintains airspeed 120-125 KIAS on the ELP.</li> <li>● Uses power rather than delaying configuration to maintain ELP profile.</li> <li>● If conditions permit, lowers flaps at low-key.</li> <li>● Establishes aircraft on final in position to make a safe landing.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
33. PEL/P	
<ul style="list-style-type: none"> <li>● In response to simulated emergency procedure, proceed to appropriate ELP position for the nearest suitable runway, then intercept the ELP.</li> <li>● Perform from initiation to crossing runway threshold.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs timely procedural execution.</li> <li>● Selects nearest suitable runway and intercepts appropriate ELP position.</li> <li>● Maintains airspeed 120-125 KIAS on the ELP.</li> <li>● Uses power rather than delaying configuration to maintain ELP profile.</li> <li>● If conditions permit, lowers flaps at low-key.</li> <li>● Establishes aircraft on final in position to make a safe landing.</li> </ul>
34. ELP Landing	
<ul style="list-style-type: none"> <li>● Perform landing in proper ELP configuration.</li> </ul>	<ul style="list-style-type: none"> <li>● Touches down at proper pitch attitude while maintaining ground track using wing-low procedures as appropriate.</li> <li>● Touches down in prescribed landing zone.</li> </ul>
35. Arrival/Course Rules	
<ul style="list-style-type: none"> <li>● Operate to and from OLF and home field using local course rules.</li> </ul>	<ul style="list-style-type: none"> <li>● Complies with the FTI, local course rules.</li> <li>● Navigation: <ul style="list-style-type: none"> <li>▶ Proceeds under own navigation to OLF/home field entry point.</li> <li>▶ Asks for, and successfully complies with, radar vectors to OLF/home field entry point.</li> </ul> </li> </ul>

BEHAVIOR STATEMENT	STANDARDS
36. Landing Pattern	
<ul style="list-style-type: none"> <li>● If from initial, from rolling out on downwind to the straightaway.</li> <li>● If from takeoff, touch-and-go, or waveoff, commencing the crosswind turn to the straightaway.</li> </ul>	<ul style="list-style-type: none"> <li>● Complies with BAW parameters except:               <ul style="list-style-type: none"> <li>▶ Maximum 45° AOB.</li> <li>▶ TO Flap:                   <ul style="list-style-type: none"> <li>■ 115 +10/-0 KIAS from 180 until straightaway.</li> <li>■ 105 +10/-0 KIAS until beginning landing flare.</li> </ul> </li> <li>▶ LDG Flap:                   <ul style="list-style-type: none"> <li>■ 110 +10/-0 KIAS from 180 until straightaway.</li> <li>■ 100 +10/-0 KIAS until beginning landing flare.</li> </ul> </li> <li>▶ No-Flap:                   <ul style="list-style-type: none"> <li>■ 120 +10/-0 KIAS from 180 until straightaway.</li> <li>■ 110 +10/-0 KIAS until beginning landing flare.</li> </ul> </li> <li>▶ Rolls out on final:                   <ul style="list-style-type: none"> <li>■ Within 75 feet of runway centerline.</li> <li>■ With 1200-1500 feet of straightaway from the threshold.</li> <li>■ Between 200 ±50 feet AGL.</li> </ul> </li> </ul> </li> </ul>

BEHAVIOR STATEMENT	STANDARDS
37. Landing (No-Flap, Takeoff Flap, LDG Flap, Full-stop)	
<ul style="list-style-type: none"> <li>● Execute normal landing per the FTI.</li> <li>● From crossing runway threshold until: <ul style="list-style-type: none"> <li>▶ Touch-and-go, commencing crosswind turn.</li> <li>▶ Full stop, aircraft is at taxi speed.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Maintains: <ul style="list-style-type: none"> <li>▶ Correct glidepath until flare initiation.</li> <li>▶ No-Flap: Minimum 110 KIAS until landing transition.</li> <li>▶ Takeoff Flap: Minimum 105 KIAS until landing transition.</li> <li>▶ LDG Flap: Minimum 100 KIAS until landing transition.</li> </ul> </li> <li>● Touches down with: <ul style="list-style-type: none"> <li>▶ Appropriate crosswind controls.</li> <li>▶ Main gear first (nose-high attitude).</li> <li>▶ Nose gear <math>\pm 10</math> feet of centerline.</li> </ul> </li> <li>● Touches down in the touchdown zone as defined by Contact FTI and local instructions.</li> <li>● Full-stop: Maintains directional through proper use of aileron and rudder. Reduces to safe taxi speed prior to clearing runway.</li> </ul>
38. Angle-of-Attack Pattern	
<ul style="list-style-type: none"> <li>● Perform AOA approach to a normal flared landing.</li> </ul>	<ul style="list-style-type: none"> <li>● Transitions to AOA when established on downwind.</li> <li>● Maintains AOA <math>\pm 2</math> units.</li> <li>● Rolls out on final: <ul style="list-style-type: none"> <li>▶ 1200-1500 feet of straightaway from the threshold.</li> <li>▶ 200 <math>\pm 50</math> feet AGL.</li> <li>▶ Within 75 feet of runway centerline.</li> </ul> </li> <li>● Executes normal flared landing.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
39. Waveoff	
<ul style="list-style-type: none"> <li>● Discontinue approach to landing.</li> </ul>	<ul style="list-style-type: none"> <li>● Expeditiously executes waveoff procedures.</li> <li>● Initiates waveoff when:               <ul style="list-style-type: none"> <li>▶ Conflicting with PEL traffic.</li> <li>▶ Stall warning system actuates (stick shaker).</li> <li>▶ Aircraft requires more than 45-degree AOB to avoid overshooting final.</li> <li>▶ Directed.</li> <li>▶ Aircraft is not in a safe position to make a safe landing.</li> </ul> </li> </ul>

INSTRUMENT

BEHAVIOR STATEMENT	STANDARDS
40. S-1 Pattern	
<ul style="list-style-type: none"> <li>● Perform the S-1 pattern, maintaining a constant vertical velocity, correcting for deviation through the maneuver.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains BAW parameters.</li> </ul>
41. Steep Turns	
<ul style="list-style-type: none"> <li>● Perform steep turns (45- and 60-degree AOB) using instrument references only.</li> </ul>	<ul style="list-style-type: none"> <li>● Bank angle <math>\pm 10</math> degrees.</li> <li>● Maintain <math>\pm 15</math> KIAS desired airspeed.</li> <li>● Rolls out on heading <math>\pm 15</math> degrees at 60-degree AOB and <math>\pm 10</math> degrees at 45-degree AOB.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
42. IFR Unusual Attitudes	
<ul style="list-style-type: none"> <li>● Perform unusual attitude recovery using full panel references.</li> </ul>	<ul style="list-style-type: none"> <li>● Nose low: Recovers minimizing altitude loss and airspeed buildup.</li> <li>● Nose high: <ul style="list-style-type: none"> <li>▶ Does not stall aircraft.</li> <li>▶ Does not overstress aircraft.</li> <li>▶ Does not enter subsequent unusual attitude.</li> </ul> </li> </ul>
43. Timed-turns	
<ul style="list-style-type: none"> <li>● Perform Timed Turns IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains BAW parameters and on time <math>\pm 10</math> seconds.</li> </ul>
44. Radial Intercepts	
<ul style="list-style-type: none"> <li>● Perform radial intercepts per FTI or ATC direction.</li> </ul>	<ul style="list-style-type: none"> <li>● Establishes aircraft <math>\pm 3^\circ</math> of desired radial.</li> </ul>
45. Point-to-Point	
<ul style="list-style-type: none"> <li>● Proceed direct to an assigned fix using VOR/DME point-to-point per FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Applies FTI procedures to expeditiously establish a correct initial heading.</li> <li>● Continuously updates heading to: <ul style="list-style-type: none"> <li>▶ Avoid sudden, large, heading changes.</li> <li>▶ Arrive within 0.5 DME and 10 radials of desired point.</li> </ul> </li> </ul>
46. Arcing	
<ul style="list-style-type: none"> <li>● Perform per FTI: <ul style="list-style-type: none"> <li>▶ VOR/DME or GPS arcing.</li> <li>▶ Arc-to-radial intercepts.</li> <li>▶ Radial-to-arc intercepts.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Maintains the arc <math>\pm 0.5</math> DME.</li> <li>● Calculates lead points to join: <ul style="list-style-type: none"> <li>▶ Arc <math>\pm 0.5</math> DME.</li> <li>▶ Radial <math>\pm 3^\circ</math>.</li> </ul> </li> </ul>
47. GCA Pattern	
<ul style="list-style-type: none"> <li>● Perform the GCA pattern IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains BAW parameters.</li> </ul>
48. Approach Pattern	
<ul style="list-style-type: none"> <li>● Perform the approach pattern IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains BAW parameters.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
49. Holding	
<ul style="list-style-type: none"> <li>● Perform holding IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Computes proper entry turn.</li> <li>● Estimates wind direction and applies appropriate corrections.</li> <li>● Establishes and maintains aircraft within holding airspace.</li> </ul>
50. Enroute Procedures	
<ul style="list-style-type: none"> <li>● Maintain aircraft's track on appropriate radial or airway.</li> <li>● Identify an intersection using appropriate NAVAID(s).</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains <math>\pm 3</math> radials of centerline.</li> <li>● Estimates approximate wind direction and applies proper crosswind correction.</li> <li>● Positions the aircraft at a required intersection or leads the turn at an intersection to roll out on the required radial <math>\pm 3^\circ</math>.</li> <li>● Gives position report as required.</li> <li>● For GPS, maintains <math>\pm 2</math> NM of centerline.</li> </ul>
51. Enroute Descent	
<ul style="list-style-type: none"> <li>● Perform IFR descent from enroute altitude or MOA.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains altitudes, ground tracks, headings, and airspeeds as required.</li> <li>● Complies with BAW standards.</li> </ul>
52. High-Altitude Approach	
<ul style="list-style-type: none"> <li>● Perform high-altitude approach procedure from IAF to MAP.</li> </ul>	<ul style="list-style-type: none"> <li>● Plans descent rate consistent with approach requirements.</li> <li>● Maintains standards for appropriate IAP layout.</li> </ul>
53. Teardrop Approach	
<ul style="list-style-type: none"> <li>● Perform a teardrop approach IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● IAF to FAF: Maintains course <math>\pm 5</math> degrees or valid intercept.</li> <li>● By the FAF or initiating descent to MDA: <ul style="list-style-type: none"> <li>▶ Completes landing checklist.</li> <li>▶ Has aircraft trimmed and at final approach airspeed <math>+10/-0</math> KIAS.</li> </ul> </li> </ul>

BEHAVIOR STATEMENT	STANDARDS
54. Arcing Approach	
<ul style="list-style-type: none"> <li>● Perform an arcing approach per FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Adheres to standards for arcing.</li> <li>● By the FAF or initiating descent to MDA: <ul style="list-style-type: none"> <li>▶ Completes landing checklist.</li> <li>▶ Has aircraft trimmed and at final approach airspeed +10/-0 KIAS.</li> </ul> </li> </ul>
55. HILO Approach	
<ul style="list-style-type: none"> <li>● Perform a holding pattern approach per FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Computes proper entry turn.</li> <li>● IAF to FAF: Maintains course <math>\pm 5^\circ</math> or valid intercept.</li> <li>● By the FAF or initiating descent to MDA. <ul style="list-style-type: none"> <li>▶ Completes landing checklist.</li> <li>▶ Has aircraft trimmed and at final approach airspeed +10/-0 KIAS.</li> </ul> </li> </ul>
56. Procedure Turn Approach	
<ul style="list-style-type: none"> <li>● Perform a procedure turn approach per FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● IAF to FAF: Maintains course <math>\pm 5^\circ</math> or valid intercept.</li> <li>● By the FAF or initiating descent to MDA: <ul style="list-style-type: none"> <li>▶ Completes landing checklist.</li> <li>▶ Has aircraft trimmed and at final approach airspeed +10/-0 KIAS.</li> </ul> </li> </ul>
57. RVFAC Approach	
<ul style="list-style-type: none"> <li>● Perform an approach using radar vectors to final approach course per FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Responds quickly and correctly to controller instructions.</li> <li>● Maintains headings <math>\pm 5^\circ</math>.</li> </ul>
58. GPS Approach	
<ul style="list-style-type: none"> <li>● Perform a GPS approach IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Initial approach waypoint to FAWP: Maintains course <math>\pm 0.25</math> NM or valid intercept.</li> <li>● At 3 NM from FAWP, ensures FAWP is active waypoint.</li> <li>● At 2 NM from FAWP, ensures GPS is in active mode.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
59. PAR Approach	
<ul style="list-style-type: none"> <li>● Perform PAR approach IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Responds quickly and correctly to controller instructions.</li> <li>● Prior to beginning descent to DH: <ul style="list-style-type: none"> <li>▶ Completes landing checklist.</li> <li>▶ Has aircraft trimmed and at final airspeed +10/-0 KIAS.</li> </ul> </li> <li>● On final: <ul style="list-style-type: none"> <li>▶ Maintains <math>\pm 3^\circ</math> of desired course.</li> <li>▶ Maintains airspeed +10/-0 KIAS.</li> <li>▶ Reaches DH.</li> <li>▶ Can safely land from approach.</li> </ul> </li> </ul>
60. ASR Approach	
<ul style="list-style-type: none"> <li>● Perform ASR approach IAW FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Responds quickly and correctly to controller instructions.</li> <li>● Prior to beginning descent to MDA: <ul style="list-style-type: none"> <li>▶ Completes landing checklist.</li> <li>▶ Has aircraft trimmed and at final airspeed +10/-0 KIAS.</li> </ul> </li> <li>● On final <ul style="list-style-type: none"> <li>▶ Maintains <math>\pm 3^\circ</math> of desired course.</li> <li>▶ Maintains airspeed +10/-0 KIAS.</li> <li>▶ Reaches MDA.</li> <li>▶ Can safely land from approach.</li> </ul> </li> </ul>
61. VOR Final	
<ul style="list-style-type: none"> <li>● Perform VOR final from FAF to MAP.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains <math>\pm 3^\circ</math> of desired course.</li> <li>● Maintains airspeed +10/-0 KIAS.</li> <li>● Maintains CDI within 1 dot.</li> <li>● Reaches and maintains MDA +100/-0 feet.</li> <li>● Can safely land from approach.</li> </ul>
62. ILS Final	
<ul style="list-style-type: none"> <li>● Perform ILS final from glideslope intercept to DH.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains <math>\pm 3^\circ</math> of desired course.</li> <li>● Maintains airspeed +10/-0 KIAS.</li> <li>● Maintains CDI within 1 dot.</li> <li>● Maintains GSI within 1 dot.</li> <li>● Reaches DH.</li> <li>● Can safely land from approach.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
63. Localizer Final	
<ul style="list-style-type: none"> <li>● Perform LOC final from FAF to MAP.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains <math>\pm 3^\circ</math> of desired course.</li> <li>● Maintains airspeed +10/-0 KIAS.</li> <li>● Maintains CDI within 1 dot.</li> <li>● Reaches and maintains MDA +100/-0 feet.</li> <li>● Can safely land from approach.</li> </ul>
64. GPS Final	
<ul style="list-style-type: none"> <li>● Perform GPS final from FAWP to MAWP.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains <math>\pm 3^\circ</math> of desired course.</li> <li>● Maintains airspeed +10/-0 KIAS.</li> <li>● Maintains CDI within 1 dot.</li> <li>● Reaches and maintains MDA +100/-0 feet.</li> <li>● Can safely land from approach.</li> </ul>
65. Backup Flight Instrument Approach	
<ul style="list-style-type: none"> <li>● Perform final approach from descent point to DH/MDA using PAR/ASR for guidance.</li> </ul>	<ul style="list-style-type: none"> <li>● Responds quickly and correctly to controller instructions.</li> <li>● By starting descent to DH/MDA: <ul style="list-style-type: none"> <li>▶ Completes landing checklist.</li> <li>▶ Has aircraft trimmed and at final airspeed.</li> </ul> </li> <li>● Maintains airspeed +10/-0 KIAS on final.</li> <li>● Can safely land from approach.</li> </ul>
66. Circling Approach	
<ul style="list-style-type: none"> <li>● Visually align the aircraft for landing on a runway other than that to which the approach was flown, or from a circling IAP per the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Properly orients circling instructions to the landing runway.</li> <li>● Selects appropriate MDA for aircraft category.</li> <li>● Maintains at/above MDA consistent with weather.</li> <li>● Remains within the clear zone for the approach category.</li> <li>● Executes missed approach instructions for the approach flown.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
67. Missed Approach	
<ul style="list-style-type: none"> <li>● Perform a missed approach.</li> </ul>	<ul style="list-style-type: none"> <li>● Complies with FTI procedures.</li> <li>● Initiates when field not in sight and               <ul style="list-style-type: none"> <li>▶ Nonprecision,                   <ul style="list-style-type: none"> <li>■ Inside FAF and full scale CDI deflection,</li> <li>■ At specified MAP DME,</li> <li>■ At expiration of timing in the absence of DME.</li> </ul> </li> <li>▶ Precision, first of                   <ul style="list-style-type: none"> <li>■ Decision height,</li> <li>■ Controller-directed,</li> </ul> </li> <li>▶ Or, not in position for safe landing.</li> </ul> </li> </ul>
68. Transition to Landing/Landing	
<ul style="list-style-type: none"> <li>● Execute normal landing per the FTI.</li> <li>● From crossing runway threshold until:               <ul style="list-style-type: none"> <li>▶ Touch-and-go, commencing crosswind turn.</li> <li>▶ Full stop, aircraft is at taxi speed.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Maintains:               <ul style="list-style-type: none"> <li>▶ Correct glidepath until flare initiation.</li> <li>▶ TO flap: Minimum 105 KIAS until landing transition.</li> <li>▶ LDG flap: Minimum 100 KIAS until landing transition.</li> </ul> </li> <li>● Touches down with:               <ul style="list-style-type: none"> <li>▶ Appropriate crosswind controls.</li> <li>▶ Main gear first (nose-high attitude).</li> <li>▶ Nose gear ±10 feet of centerline.</li> </ul> </li> <li>● Touches down in the touchdown zone as defined by Contact FTI and local instructions.</li> </ul>

NAVIGATION

BEHAVIOR STATEMENT	STANDARDS
69. Route Entry/Exit	
<ul style="list-style-type: none"> <li>● Perform route entry procedures.</li> </ul>	<ul style="list-style-type: none"> <li>● Accomplishes required ATC coordination, visually identifies route entry, complies with all entry time requirements, effectively maneuvers aircraft into route structure, arrives at entry point <math>\pm 1</math> NM.</li> </ul>
70. Route Management	
<ul style="list-style-type: none"> <li>● Navigate from point-to-point using dead reckoning and visual references.</li> </ul>	<ul style="list-style-type: none"> <li>● Establishes chart position using clock-chart-ground.</li> <li>● Identifies chart significant landmarks along route.</li> <li>● Overflies each checkpoint <math>\pm 1</math> NM.</li> </ul>
71. Standard Time Corrections	
<ul style="list-style-type: none"> <li>● Navigate from point-to-point using dead reckoning and visual references.</li> </ul>	<ul style="list-style-type: none"> <li>● Makes airspeed adjustments to arrive on target <math>\pm 1</math> minute.</li> </ul>
72. Standard Course Corrections	
<ul style="list-style-type: none"> <li>● Navigate from point-to-point using dead reckoning and visual references.</li> </ul>	<ul style="list-style-type: none"> <li>● Makes adjustments to maintain a visual low-level course given a specified course <math>\pm 2</math> NM.</li> </ul>
73. ATIS/PMSV/FSS/Weather	
<ul style="list-style-type: none"> <li>● Use ATIS/PMSV to update destination conditions.</li> <li>● Use FSS as required to open, change, and close flight plans.</li> </ul>	<ul style="list-style-type: none"> <li>● Checks ATIS prior to contacting destination approach control.</li> <li>● Updates destination and alternate weather with PMSV/AWOS/FSS enroute, when required.</li> <li>● Contacts FSS to: <ul style="list-style-type: none"> <li>▶ Open flight plans after departure.</li> <li>▶ Change flight plans enroute.</li> <li>▶ Close flight plans after landing.</li> </ul> </li> </ul>

FORMATION

BEHAVIOR STATEMENT	STANDARDS
74. Lead Change	
<ul style="list-style-type: none"> <li>● Transfer control of the flight from lead to Dash 2.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs expeditiously IAW the appropriate FTI parameters and procedures.</li> </ul>
75. Visual Signals	
<ul style="list-style-type: none"> <li>● Communicate using hand, head, and aircraft movements.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW FTI.</li> </ul>
76. Section Takeoff	
<ul style="list-style-type: none"> <li>● Perform takeoff from takeoff clearance through landing gear retraction while in close formation.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW FTI.</li> <li>● Wingman maintains takeoff position until gear retraction, and then expeditiously moves to parade/fingertip position.</li> </ul>
77. Interval Takeoff/Rendezvous	
<ul style="list-style-type: none"> <li>● Perform takeoff as Dash 2 from takeoff clearance until in parade/fingertip position.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW FTI.</li> <li>● Dash 2 accomplishes timely rendezvous.</li> </ul>
78. Wingman Consideration	
<ul style="list-style-type: none"> <li>● Plan and maneuver to avoid unnecessarily complicating Dash 2's tasks.</li> </ul>	<ul style="list-style-type: none"> <li>● Considers airspace and weather in planning maneuvers.</li> <li>● Monitors Dash 2.</li> <li>● Does not exceed Dash 2 capabilities.</li> <li>● Maneuvers smoothly and avoids abrupt power changes.</li> <li>● Does not exceed FTI parameters.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
79. Parade/Fingertip (Straight-and-Level)	
<ul style="list-style-type: none"> <li>● Maintain close formation position IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains formation checkpoints IAW FTI.</li> <li>● Makes smooth flight control and PCL corrections.</li> <li>● Performs checklist items, radio frequency changes, and navigational tasks expeditiously/safely.</li> </ul>
80. Parade/Turns Into	
<ul style="list-style-type: none"> <li>● Dash 2 is on the inside of the turn while in parade.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains parade position.</li> </ul>
81. Parade/Turns Away (IFR)	
<ul style="list-style-type: none"> <li>● Perform parade turns during actual/simulated IMC.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains normal parade checkpoints for all turns.</li> <li>● Lead does not exceed 45° AOB.</li> </ul>
82. Parade/Turns Away (VFR)	
<ul style="list-style-type: none"> <li>● Dash 2 is on the outside of the turn while in parade.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains proper position and rotates about own longitudinal axis.</li> </ul>
83. Lost Wingman Exercise	
<ul style="list-style-type: none"> <li>● Execute appropriate separation procedure IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Safely executes procedures IAW the FTI.</li> </ul>
84. Crossunder	
<ul style="list-style-type: none"> <li>● Dash 2 moves from parade/fingertip on one side of the formation to parade/fingertip on the other side.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW appropriate FTI.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
85. Breakup and Rendezvous	
<ul style="list-style-type: none"> <li>● Separate flight and return to close formation.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW FTI.</li> <li>● Expeditiously maneuvers to the briefed rendezvous line.</li> <li>● Maintains positive overtake throughout the remainder to the rendezvous.</li> <li>● Lead monitors Dash 2's position.</li> </ul>
86. Running Rendezvous	
<ul style="list-style-type: none"> <li>● Reform to parade while lead is maintaining constant heading.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW FTI.</li> <li>● Dash 2 accomplishes timely running rendezvous.</li> </ul>
87. Underrun	
<ul style="list-style-type: none"> <li>● Dash 2 discontinues joinup due to being excessively acute, acute in close, or has excessive closure.</li> </ul>	<ul style="list-style-type: none"> <li>● Recognizes requirement for underrun in time to safely execute procedures IAW the appropriate FTI.</li> </ul>
88. Cruise Maneuvering	
<ul style="list-style-type: none"> <li>● Perform cruise maneuvering sequence.</li> </ul>	<ul style="list-style-type: none"> <li>● Lead: <ul style="list-style-type: none"> <li>▶ Smoothly maneuvers IAW FTI parameters.</li> <li>▶ Minimizes use of power to maintain stable platform.</li> </ul> </li> <li>● Wing: <ul style="list-style-type: none"> <li>▶ Maintains approximate cruise position according to lead's bank angle.</li> <li>▶ Minimizes use of power to maintain proper position.</li> <li>▶ Properly uses pursuit curves to maintain position.</li> </ul> </li> </ul>

BEHAVIOR STATEMENT	STANDARDS
89. Tail-Chase	
<ul style="list-style-type: none"> <li>● Perform tail-chase maneuvering as lead or wing.</li> </ul>	<ul style="list-style-type: none"> <li>● Lead: <ul style="list-style-type: none"> <li>▶ Smoothly maneuvers IAW FTI parameters.</li> <li>▶ Monitors Dash 2.</li> </ul> </li> <li>● Wing: <ul style="list-style-type: none"> <li>▶ Recognizes changes in aspect, bearing line, closure, and range.</li> <li>▶ Correctly establishes lead/lag/pure pursuit to maintain 800-1000 feet nose-to-tail position.</li> <li>▶ Minimizes use of power to maintain position.</li> </ul> </li> </ul>
90. Formation Approach	
<ul style="list-style-type: none"> <li>● Execute an instrument or VFR straight-in approach as lead or wing.</li> </ul>	<ul style="list-style-type: none"> <li>● Lead: <ul style="list-style-type: none"> <li>▶ Maintains appropriate Contact, Instrument, or Formation FTI approach parameters and procedures.</li> <li>▶ Maintains wingman consideration.</li> </ul> </li> <li>● Wing: <ul style="list-style-type: none"> <li>▶ Maintains parade/fingertip parameters.</li> <li>▶ Configures on lead's signals.</li> <li>▶ Sets and monitors NAVAIDS.</li> </ul> </li> </ul>
91. Tactical Formation - Spread/Turns	
<ul style="list-style-type: none"> <li>● Straight-and-level, wingman maintains position on lead.</li> <li>● During turns, wingman maintains position on lead.</li> </ul>	<ul style="list-style-type: none"> <li>● Lead provides predictable platform for wingman.</li> <li>● Wingman: <ul style="list-style-type: none"> <li>▶ Maintains position using energy maneuverability concepts.</li> <li>▶ Fixes position IAW FTI.</li> <li>▶ Deconflicts lead's flight path.</li> <li>▶ Flies appropriate geometry IAW FTI.</li> </ul> </li> </ul>

AIR FORCE FORMATION

BEHAVIOR STATEMENT	STANDARDS
92. Knock-It-Off Procedures	
<ul style="list-style-type: none"> <li>● Perform knock-it-off for any unsafe or other required situation.</li> </ul>	<ul style="list-style-type: none"> <li>● Maneuvers in appropriate, predictable manner to not present further hazard to the flight.</li> <li>● Executes proper communications.</li> </ul>
93. Route	
<ul style="list-style-type: none"> <li>● Maintain enroute medium/high level formation position IAW the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains position IAW FTI while performing required duties.</li> </ul>
94. Echelon	
<ul style="list-style-type: none"> <li>● Maintain close formation when lead turns away.</li> </ul>	<ul style="list-style-type: none"> <li>● Lead: IAW FTI, 60 ±5 degrees AOB, within BAW parameters.</li> <li>● Wing: Maintains position IAW FTI.</li> </ul>
95. Straight Ahead Rejoin	
<ul style="list-style-type: none"> <li>● Reform to fingertip while lead is maintaining constant heading.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW FTI.</li> <li>● Wingman does not exceed lead's 3/9 line.</li> </ul>
96. Turning Rejoin	
<ul style="list-style-type: none"> <li>● Reform to fingertip while lead is maintaining constant angle-of-bank turn.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW FTI, correctly using lead, lag, and pure pursuit to execute rejoin.</li> </ul>
97. Wingwork	
<ul style="list-style-type: none"> <li>● Stay in close formation/fingertip through dynamic maneuvering.</li> </ul>	<ul style="list-style-type: none"> <li>● Lead: <ul style="list-style-type: none"> <li>▶ Maneuvers smoothly.</li> <li>▶ Maintains FTI parameters.</li> <li>▶ Monitors wingman.</li> <li>▶ Maneuvering with approximately 3 Gs and 90 degrees of bank.</li> <li>▶ Does not exceed 90 degrees AOB.</li> </ul> </li> <li>● Wing maintains parade/fingertip parameters.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
98. Extended Trail	
<ul style="list-style-type: none"> <li>● Lead: Perform extended trail to include: <ul style="list-style-type: none"> <li>▶ Level 1: A level turning platform.</li> <li>▶ Level 2: Modified Lazy Eight.</li> <li>▶ Level 3: <ul style="list-style-type: none"> <li>■ Barrel Roll.</li> <li>■ Loop.</li> <li>■ Cloverleaf.</li> <li>■ Modified Cuban Eight.</li> </ul> </li> </ul> </li> <li>● Wing: Perform extended trail to include: <ul style="list-style-type: none"> <li>▶ Level 1: Maneuvering with respect to a stabilized lead platform.</li> <li>▶ Level 2: Modified Lazy Eight.</li> <li>▶ Level 3: <ul style="list-style-type: none"> <li>■ Barrel Roll.</li> <li>■ Loop.</li> <li>■ Cloverleaf.</li> <li>■ Modified Cuban Eight.</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Lead: Smoothly accomplishes maneuvers IAW FTI. <ul style="list-style-type: none"> <li>▶ Monitors wingman's position.</li> <li>▶ Acts appropriately if any training rules are violated.</li> <li>▶ Maintains situational awareness and remain within area.</li> <li>▶ Demonstrates safe proficiency level.</li> </ul> </li> <li>● Wing: Smoothly accomplishes maneuvers IAW FTI. <ul style="list-style-type: none"> <li>▶ Recognizes changes in aspect, angle-off, and closure/range from lead aircraft.</li> <li>▶ Able to establish correct pursuit course.</li> <li>▶ Maintains/regains sight of lead aircraft.</li> <li>▶ Acts appropriately if any training rules are violated.</li> <li>▶ Demonstrates safe proficiency level.</li> </ul> </li> </ul>
99. Formation Landing	
<ul style="list-style-type: none"> <li>● Perform landing from one-mile final through rollout while in close formation.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW FTI, landing on the center of the appropriate side of the runway.</li> <li>● Wingman maintains stacked level position through touchdown, and then drops back during rollout.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
100. Clearing/Visual Lookout	
<ul style="list-style-type: none"> <li>● Accomplish mission tasks visually and aurally (with radios), while avoiding other aircraft and ground obstacle conflicts.</li> </ul>	<ul style="list-style-type: none"> <li>● Recognize actual or potential conflicts and adjust aircraft performance to safely avoid those conflicts.</li> <li>● Effectively use accepted visual clearing methods to avoid conflicts. Can effectively employ radios and aircraft systems to aid in clearing tasks.</li> </ul>
101. AF Pattern Operations	
<ul style="list-style-type: none"> <li>● Execute AF pattern operations per the FTI.</li> <li>● Perform a VFR traffic entry arrival (single ship or formation).</li> <li>● Perform a 360-degree overhead pattern (no-flap, takeoff-flap, and landing-flap configurations).</li> <li>● Perform formation pitchout and landing.</li> <li>● Establish and maintain proper visual glidepath.</li> <li>● Perform a closed pattern.</li> <li>● Perform low approach/go-around as required (single ship or formation).</li> </ul>	<ul style="list-style-type: none"> <li>● Execute AF pattern operations per the FTI (single ship or formation).</li> <li>● Comply with published directives concerning VFR traffic arrival and entry procedures.</li> <li>● Comply with standards specified for 360-degree overhead pattern and landing.</li> <li>● Perform pitchout as required. Establish downwind IAW formation directives. Minimum spacing of 3000 feet behind lead until crossing the threshold.</li> <li>● Closed pullup: Airspeed minimum of 140 KIAS for start of and during pullup. Inside downwind: minimum of 120 KIAS. Roll out at overhead pattern altitude <math>\pm 100</math> feet.</li> <li>● Low approach/go-around: IAW FTI.</li> </ul>
102. Pitchout/Rejoin	
<ul style="list-style-type: none"> <li>● Separate flight and return to close/fingertip formation.</li> </ul>	<ul style="list-style-type: none"> <li>● Performs IAW FTI.</li> <li>● Expeditiously maneuvers to the briefed rejoin line.</li> <li>● Maintains positive overtake throughout the remainder to the rejoin.</li> <li>● Lead monitors wing's position.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
103. Enroute Descent/Letdown/Radar Vectors	
<ul style="list-style-type: none"> <li>● Perform recoveries from MOA, auxiliary field, STARS, and any enroute descent (single ship or formation).</li> </ul>	<ul style="list-style-type: none"> <li>● Maintain altitudes, ground tracks, headings, and airspeeds as required. Comply with IFR navigation and basic/enroute aircraft control standards.</li> </ul>
104. VFR Arrival/Traffic Entry	
<ul style="list-style-type: none"> <li>● Perform a VFR traffic entry/arrival (single ship or formation).</li> </ul>	<ul style="list-style-type: none"> <li>● Complies with the FTI, local course rules, or published directives concerning VFR traffic arrival and entry procedures.</li> <li>● Navigation: <ul style="list-style-type: none"> <li>▶ Proceeds under own navigation to entry point.</li> <li>▶ Asks for, and successfully complies with radar vectors to entry point.</li> <li>▶ Wingman on appropriate side by initial/FAF (formation).</li> </ul> </li> </ul>
105. Formation Landing (USAF)	
<ul style="list-style-type: none"> <li>● Perform formation full-stop landing as lead and as wing.</li> </ul>	<ul style="list-style-type: none"> <li>● Formation landing: position same as formation approach stack level. Maintain a minimum of 20 feet wingtip clearance IAW FTI and make smooth, positive control inputs. Do not become airborne after touchdown and maintain the respective side of the runway.</li> <li>● Land in center of appropriate side of the runway.</li> </ul>
106. Overshoot	
<ul style="list-style-type: none"> <li>● Wing discontinues joinup due to being excessively acute, acute-in-close, or has excessive closure.</li> </ul>	<ul style="list-style-type: none"> <li>● Recognizes requirement for overshoot in time to safely execute procedures IAW the appropriate FTI.</li> </ul>
107. Breakout	
<ul style="list-style-type: none"> <li>● Separate from/break out of formation when situation requires.</li> </ul>	<ul style="list-style-type: none"> <li>● If required, do so in a safe and timely manner. Ensure safe separation.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
108. Tactical Rejoin	
<ul style="list-style-type: none"><li>• Perform tactical rejoins: straight ahead, turning into, or turning away.</li></ul>	<ul style="list-style-type: none"><li>• Expeditiously maneuver to an appropriate rejoin line.</li><li>• Maintain positive separation from other flight members throughout the maneuver.</li><li>• Completes rejoin IAW FTI.</li></ul>

CNATRAINST 1542.166A  
6 Feb 12

BLANK PAGE