



DEPARTMENT OF THE NAVY
CHIEF OF NAVAL AIR TRAINING
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Canc frp: Sep 18

CNATRANOTE 1542
N714
08 Sep 17

CNATRA NOTICE 1542

Subj: AEROSPACE MEDICINE SPECIALIST ROTARY-WING
CURRICULUM TRAINING AIR WING FIVE

Ref: (a) CNATRANOTE 1542.156C
(b) CNATRANOTE 1500.4H
(c) CNATRANOTE 1550.6F

Encl: (1) AMS Rotary-Wing Course Flow Diagram
(2) AMS Rotary-Wing Discussion Items and MIF Tables

1. Purpose. This notice directs utilization of reference (a), as modified below, in the training of Aerospace Medicine Specialists (AMSS) at Training Air Wing FIVE. Conduct training per references (b) and (c).

2. Syllabus Description. This syllabus is designed to expose AMSS to the rigors Student Naval Aviators (SNAs) experience during Advanced Helicopter Flight Training and the stress of flying a helicopter, and also to give them the opportunity to obtain the same basic skills obtained by student aviators. The simulator and flight events conducted in this syllabus will expose AMSS to basic rotary-wing contact, instrument, navigation, and night operations.

3. Course Data. Utilize reference (a) with Course ID Number (CIN): Q-2C-1156; Course Data Processing Code (CDP): 12UX (HT-8), 12UY (HT-18), 12UZ (HT-28) for the AMS training.

a. Due to the unique nature and time constraints of this course, the Time-to-Train (TTT) calculations contained in reference (c) are modified, for this syllabus only. Training days corrected for weather (TW) shall be rounded up to the nearest whole day.

b. Course Length: 15.2 Training Days, 23.4 Calendar Days, 3.3 Calendar Weeks.

c. Course Hours: 9.5 (Ground Training), 42.1 (Flight Support), 2.6 (Simulator), 10.2 (Aircraft).

4. Event list

a. To meet this requirement, the following events contained in reference (a) shall constitute the course of instruction for the AMS rotary-wing curriculum: G0101-5, G0301, C0101-7, C0190, C0201-6, C0216, C0801-2, C0301, C0401, C0601, C2001, C4001, C0701-3, C3001, C4601, C4801, N0301, N4301, V0102, and V4003. In addition to these events from reference (a), the following events are added as part of the course of instruction for the AMS rotary-wing curriculum: C0901, I4901; details for these two flights are found below in syllabus notes, paragraph (6) and enclosure (2).

b. Those events not listed above but found in the Advanced Helicopter Course flow are administratively waived in order to accomplish AMS rotary-wing training.

c. Events not completed may be waived by the Naval Aviation Medical Institute (NAMI) Director of Academics (code 35).

5. Grading and Maneuver Item File (MIF). AMSS are expected to know and be able to thoroughly discuss all of the discussion items and maneuver procedures from the FTI/NATOPS but are not expected to gain proficiency in flying the TH-57 due to the abbreviated syllabus and short time to train. Therefore, AMSS shall meet a MIF of "3" on General Knowledge/Procedures for all simulator and flight events and a MIF of "2" for all other graded items.

6. Syllabus Notes and Restrictions

a. All simulator/flight events.

(1) AMSS should be given the opportunity to attempt to perform as many maneuvers as practical at the discretion of the Instructor Pilot (IP).

(2) AMSS shall not be responsible for providing flight plan, route cards, navigation maps, or weather brief information.

(3) AMSs are not required to brief TH-57 systems in simulator or flight events.

(4) All special syllabus requirements (SSRs) shall be met IAW reference (a).

b. Event C0901 is the AMS's FAM ZERO brief. AMSs shall call the IP the night before to coordinate time/ location/ expectations. See enclosure (2) for Discuss Items. AMSs shall complete a full preflight on C0901.

c. Event I4901 is an observation of any BI or RI SNA flight from the back seat of the aircraft as a crew observer. AMSs shall call IP the night before to coordinate. See enclosure (2) for Discuss Items.

d. Event N4301 should be flown using the Green Route. AMSs shall call IP the night before to coordinate. SSRs from N4301 apply. See enclosure (2) for Discuss Items.

e. Event V4003 is an observation of a SNA V4003 from the back seat of the aircraft as a crew observer. AMSs shall call IP the night before to coordinate. V4003 should be flown using the Green Route. See enclosure (2) for Discuss Items.

f. On event C4801, students shall fly a minimum of 1.0 hours of night time and should fly the hospital route. IP should demo a night autorotation. See enclosure (2) for Discuss Items.

7. Unsatisfactory Performance. This syllabus is designed to the same standards as the SNA enrolled in the SNA curriculum. In the unlikely event that performance is unsatisfactory and remediation would lead to an excessive TTT, TRAWING FIVE shall notify the NAMI Director of Academics (code 35) for further direction.

8. Prerequisites. Prerequisites shall be per reference (a) except as displayed on the flowchart, enclosure (1). Prerequisites are also listed in enclosure (2).

9. Point of Contact. Maj Ronald Chino, N714 at DSN 861-3894, (361) 961-3894 or email at Ronald.Chino@navy.mil.

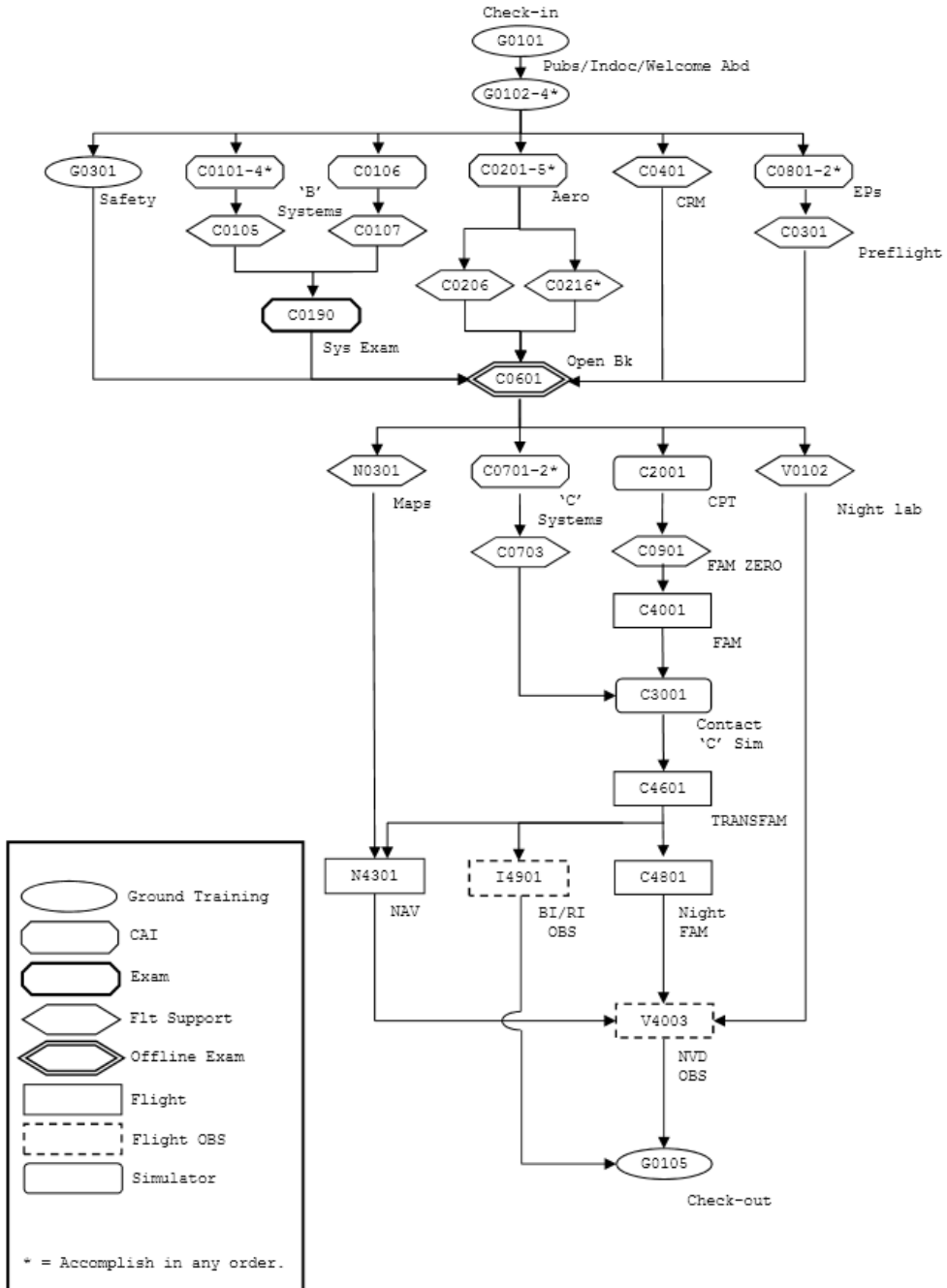
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10. Cancellation Contingency. This notice shall remain in effect until the cancellation date, until superseded by an updated notice with the same subject, or cancelled by instruction.

D. M. EDGECOMB
Chief of Staff

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TRAWING FIVE
HELTRARON EIGHT
HELTRARON ONE EIGHT
HELTRARON TWO EIGHT

ADVANCED HELICOPTER AMS COURSE FLOW



| Blk # | Media | Title | Events | Hrs | H/X |
|-------|-------|-------------------------------|--------|-----|-----|
| C20 | 2C67 | Cockpit Procedures Trainer | 1 | 1.3 | 1.3 |

1. Prerequisite. C0601 (Open Book NATOPS Exam).

2. Syllabus Notes

a. AMSs should be given the opportunity to attempt to perform as many maneuvers as practical at the discretion of the Instructor Pilot.

b. AMSs are not required to brief TH-57 systems in simulator or flight events.

c. The AMSs shall perform the following procedures on the indicated event.

C2001

Contact stage checklists and voice reports, RPM beep control, normal start procedures, abnormal starts, anti-ice operation, post shutdown fire/internal.

3. Special Syllabus Requirements

C2001

Location, function, and operation of cockpit gauges, radios, switches, and engine/rotor controls. Demonstrate CPT console operation.

4. Discuss Items

C2001

Use of checklists/voice reports; location, function, and operation of cockpit gauges, radios, switches, and engine/rotor controls; APU start; RPM beep control; abnormal starts; post shutdown fire (internal); CRM (aircraft start and shutdown, flight control check, ground emergencies).

5. Block MIF

| CTS REF | MANEUVER | C2001 |
|---------|-------------------------------|-------|
| 1 | General Knowledge/Procedures | 3+ |
| 2 | Contact Stage Checklists | 2+ |
| 2 | RPM Beep Control | 2+ |
| 2 | Normal Start Procedures | 2+ |
| 2 | Abnormal Starts | 2+ |
| 2 | Anti-Ice Operation | 2+ |
| 2 | Post shutdown Fire/Internal | 2+ |
| 2 | Emergency Engine Shutdown | 2+ |
| 2 | Engine Oil System | 2+ |
| 2 | Transmission Oil System | 2+ |
| 2 | Tac/Gen Malfunction | 2+ |
| 2 | TOT Malfunction | 2+ |
| 2 | Overtorque/Overtemp/Overspeed | 2+ |
| 2 | Torque Malfunction | 2+ |
| 2 | Smoke and Fume Elimination | 2+ |
| 2 | Suspected Fuel Leakage | 2+ |
| 2 | Generator/Electrical | 2+ |
| 2 | Hydraulic System | 2+ |
| 2 | Chip Lights | 2+ |
| 2 | Fuel System Malfunctions | 2+ |
| 2 | Engine Fire in Flight | 2+ |
| 2 | Battery System Malfunctions | 2+ |

MIF continued on next page.

| CTS REF | MANEUVER | C2001 |
|------------|--------------------------------|-------|
| 2 | Normal Shutdown Procedures | 2+ |
| 2 | Engine Overspeed | 2+ |
| 2 | Engine Underspeed | 2+ |
| 2 | Compressor Stall | 2+ |
| 2 | Engine Failure | 2+ |
| 2 | Engine Restart | 2+ |
| 2 | Electrical Fire | 2+ |
| 2 | Main Drive Shaft Failure | 2+ |
| 3 | Headwork/Situational Awareness | 2+ |
| 8 | CRM | 2+ |
| 9 | Cockpit Management | 2+ |
| 10 | Blindfold Cockpit Check | 2+ |
| 11 | Radio Procedures | 2+ |
| | Special Syllabus Requirements | 1 |

| Blk # | Media | Title | Events | Hrs | Blk Name |
|-------|-------|----------------|--------|-----|----------|
| C09 | SQDN | FAM Zero Brief | 1 | 3.0 | DCONFP |

1. Prerequisite. C2001.

2. Syllabus Notes

a. AMSs shall call the IP the night before to coordinate time/location/expectations.

b. AMSs shall complete a full preflight on C0901.

3. Discuss Items

C0901

ORM Checklist, NATOPS Brief, preflight procedures, emergency egress procedures, helicopter hover height trainer, local training area, flight line operations, entering and exiting the rotor arc, publications AMSs are required to carry each flight, NATOPS, RWOP, Squadron SOP, crew rest/crew day, CRM, Posture/Flight Controls/Egress, pilot/copilot responsibilities, flight gear check out, and weather requirements.

| Blk # | Media | Title | Events | Hrs | H/X |
|-------|--------|-------------|--------|-----|-----|
| C40 | TH-57B | Contact 'B' | 1 | 1.5 | 1.5 |

1. Prerequisite. C0901 (FAM Zero Brief).

2. Syllabus Notes

a. AMSs should be given the opportunity to attempt to perform as many maneuvers as practical at the discretion of the Instructor Pilot.

b. AMSs shall not be responsible for providing flight plan, route cards, navigation maps, or weather brief information.

c. AMSs are not required to brief TH-57 systems in simulator or flight events.

3. Special Syllabus Requirements

C4001

a. Egress drill shall be conducted.

b. 5-foot hover trainer shall be utilized.

4. Discuss Items

C4001

Student responsibilities, ORM checklist, CRM, NATOPS brief, passing flight controls, takeoff, landing, hover, hover taxi, flight line operations, taxi signals, course rules, local training area, OPNAVINST 3710.7U, NATOPS, TW-5 SOP (RWOP), squadron SOP, aircraft discrepancy book, VFR integrated scan, ground effect, entering and exiting the rotor arc, trim techniques.

5. Block MIF

| CTS REF | MANEUVER | C4001 |
|---------|--------------------------------------|-------|
| 1 | General Knowledge/Procedures | 3+ |
| 2 | Emergency Procedures/System Failures | 2+ |
| 3 | Headwork/Situational Awareness | 2+ |
| 4 | Basic Air Work | 2+ |
| 5 | Flight Planning | 2 |
| 7 | Ground Operations | 2+ |
| 8 | CRM | 2 |
| 9 | Cockpit Management | 2 |
| 11 | Radio Procedures | 2+ |
| 13 | Vertical Takeoff | 2+ |
| 17 | Transition to Forward Flight | 2+ |
| 19 | Course Rules | 2+ |
| 21 | Hover | 2+ |
| 22 | Turn on the Spot/Clearing Turn | 2+ |
| 25 | Hover Taxi | 2+ |
| 26 | Max Load Takeoff | 2 |
| 29 | Normal Approach | 2+ |
| 37 | Sliding Landing | 2 |
| 38 | No-Hover Landing | 2 |
| 40 | Waveoff (Power On) | 2 |
| 41 | Waveoff (Power Off) | 2 |
| 42 | Power Recovery Autorotations | 2 |
| 43 | Full Autorotation | 2 |
| 45 | Square Patterns | 2+ |
| 46 | Simulated Engine Failure @ Altitude | 2+ |
| 47 | Simulated Engine Failure in a Hover | 2+ |

MIF continued on next page.

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|----|---|----|
| 48 | Simulated Engine Failure in a Hover Taxi | 2+ |
| 49 | Quick Stop From a Hover | 2 |
| 51 | LSC/Contact | 2 |
| 54 | Turn Pattern/Contact | 2 |
| 95 | Vertical Landing | 2+ |
| | Special Syllabus Requirements | 1 |

Enclosure (2)

| Blk # | Media | Title | Events | Hrs | H/X |
|-------|-------|---|--------|-----|-----|
| C30 | 2B42A | Contact Simulator 'C' Model Transition | 1 | 1.3 | 1.3 |

1. Prerequisites

- a. C4001.
- b. C0703 (Charlie Systems).

2. Syllabus Notes

a. AMSs should be given the opportunity to attempt to perform as many maneuvers as practical at the discretion of the Instructor Pilot.

b. AMSs are not required to brief TH-57 systems in simulator or flight events.

c. The purpose of this simulator is to introduce the student aviator to the 'C' model aircraft and the differences in cockpit configuration.

d. All TH-57C ground checklists and voice reports will be accomplished with special emphasis on the COMM/NAV checklist. Student shall execute a blindfold cockpit check.

3. Special Syllabus Requirements. None.

4. Discuss Items

C3001

Checklists (prestart, start, instrument takeoff (ITO), shutdown, hot refuel, hot seat), COMM/NAV checklist, cockpit crew coordination brief, angle of bank for standard-rate turns (SRTs).

5. Block MIF

| CTS REF | MANEUVER | C3001 |
|---------|--------------------------------------|-------|
| 1 | General Knowledge/Procedures | 3+ |
| 2 | Emergency Procedures/System Failures | 2+ |
| 3 | Headwork/Situational Awareness | 2+ |
| 8 | CRM | 2+ |
| 9 | COMM/NAV Checklist | 2+ |
| 10 | Blindfold Cockpit Check | 2+ |
| 11 | Radio Procedures | 2+ |

| Blk # | Media | Title | Events | Hrs | H/X |
|-------|--------|-------------|--------|-----|-----|
| C46 | TH-57C | Contact 'C' | 1 | 1.5 | 1.5 |

1. Prerequisite. C3001 (Charlie Simulator).

2. Syllabus Notes

a. The purpose of this block is to transition air work skills and leadership into the TH-57C model aircraft.

b. Emphasis should be placed on checklists and new requirements during start, operation, emergencies, and shutdown.

c. AMSS should be given the opportunity to attempt to perform as many maneuvers as practical at the discretion of the Instructor Pilot.

d. AMSS are not required to brief TH-57 systems in simulator or flight events.

3. Special Syllabus Requirements. None.

4. Discuss Items

C4601

Flight maneuvers in the TH-57C, weather brief requirements, course rules (Site 8 and Santa Rosa), torque limitations, preflight differences between 'C' and 'B' model aircraft, abnormal starts (igniter failure, hot start, hung start), fire on start, emergency shutdown, and engine failure in flight.

5. Block MIF

| CTS REF | MANEUVER | C4601 |
|---------|--------------------------------------|-------|
| 1 | General Knowledge/Procedures | 3+ |
| 2 | Emergency Procedures/System Failures | 2+ |
| 3 | Headwork/Situational Awareness | 2+ |
| 4 | Basic Air Work | 2+ |
| 5 | Flight Planning | 2 |
| 7 | Ground Operations | 2+ |
| 7 | Preflight Inspection | 2+ |
| 8 | CRM | 2+ |
| 9 | Cockpit Management | 2+ |
| 9 | COMM/NAV Checklist | 2+ |
| 11 | Radio Procedures | 2+ |
| 17 | Transition to Forward Flight | 2+ |
| 19 | Course Rules | 2+ |
| 23 | Low Work | 2+ |
| 26 | Max Load Takeoff | 2+ |
| 29 | Normal Approach | 2+ |
| 29,39 | Normal Approach, Stab-Off Flight | 2 |
| 31 | Steep Approach | 2 |
| 32 | Hydraulic Boost Off Approach | 2+ |
| 37 | Sliding Landing | 2+ |
| 38 | No-Hover Landing | 2+ |
| 40 | Waveoff (Power On) | 2 |
| 41 | Waveoff (Power Off) | 2 |
| 42 | Power Recovery Autorotations | 2+ |

MIF continued on next page.

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| | | |
|----|---|----|
| 46 | Simulated Engine Failure @ Altitude | 2+ |
| 47 | Simulated Engine Failure in a Hover | 2+ |
| 48 | Simulated Engine Failure in a Hover Taxi | 2+ |
| 54 | Turn Pattern/Contact | 2 |

Enclosure (2)

| Blk # | Media | Title | Events | Hrs | H/X |
|-------|--------|-------------------|--------|-----|-----|
| C48 | TH-57C | Night Contact 'C' | 1 | 1.5 | 1.5 |

1. Prerequisite. C4601.

2. Syllabus Notes

a. The purpose of this block is to develop air work skills during basic maneuvers and autorotation in the TH-57C model aircraft at night.

b. Emphasize basic skills and night operations.

c. AMSS should be given the opportunity to attempt to perform as many maneuvers as practical at the discretion of the Instructor Pilot.

d. AMSS are not required to brief TH-57 systems in simulator or flight events.

3. Special Syllabus Requirements. None.

4. Discuss Items

C4801

Dark adaptation, night hover scan, night visual scan techniques, vertigo, use of lights, visual approach slope indicator (VASI)/precision approach path indicator (PAPI), helicopter procedures at night, night course rules (Whiting, Santa Rosa, Duke, Choctaw), emergency procedures, landing site evaluation at night, engine failures at night.

5. Block MIF

| CTS REF | MANEUVER | C4801 |
|---------|--------------------------------------|-------|
| 1 | General Knowledge/Procedures | 3+ |
| 2 | Emergency Procedures/System Failures | 2+ |
| 3 | Headwork/Situational Awareness | 2+ |
| 4 | Basic Air Work | 2+ |
| 5 | Flight Planning | 2+ |
| 7 | Ground Operations | 2+ |
| 8 | CRM | 2+ |
| 9 | Cockpit Management | 2 |
| 11 | Radio Procedures | 2+ |
| 17 | Transition to Forward Flight | 2+ |
| 19 | Course Rules | 2+ |
| 23 | Low Work | 2+ |
| 29 | Normal Approach | 2+ |
| 31 | Steep Approach | 2+ |
| 38 | No-Hover Landing | 2+ |
| 40 | Waveoff (Power On) | 2 |
| 41 | Waveoff (Power Off) | 2 |
| 42 | Power Recovery Autorotations | 1 |

| Blk # | Media | Title | Events | Hrs | H/X |
|-------|--------|----------------------|--------|-----|-----|
| N43 | TH-57C | Low-Level Navigation | 1 | 1.8 | 1.8 |

1. Prerequisites

- a. C4601.
- b. N0301 (Map Interpretation).

2. Syllabus Notes

- a. Routes shall be flown using 1:250,000 charts.
- b. Routes shall be planned using 90 knots groundspeed.
- c. N4301 shall be flown no lower than 500 feet AGL.
- d. N4301 should be flown using the Green Route.
- e. AMSs shall not be responsible for providing flight plan, route cards, navigation maps, or weather brief information.
- f. AMSs are not required to brief TH-57 systems in simulator or flight events.
- g. AMSs shall call IP the night before to coordinate.

3. Special Syllabus Requirements

N4301

IP shall demonstrate the first low-level navigation brief and navigate the first four checkpoints.

4. Discuss Items

N4301 GREEN ROUTE, 1:250,000

Techniques for low-level navigation to be briefed by the IP (to include funneling and limiting features, effects of wind), map interpretation, visual scanning, pilotage, dead reckoning, timing, use of GPS as backup, checkpoints, hazards, CHUM (Chart Updating Manual), low-level navigation charts, map preparation, route cards/MPS.

5. Block MIF

| CTS REF | MANEUVER | N4301 |
|----------|--------------------------------------|-------|
| 1 | General Knowledge/Procedures | 3+ |
| 2 | Emergency Procedures/System Failures | 2+ |
| 3 | Headwork/Situational Awareness | 2+ |
| 4 | Basic Air Work | 2+ |
| 5 | Flight Planning | 2+ |
| 7 | Ground Operations | 2+ |
| 8 | CRM | 2+ |
| 9 | Cockpit Management | 2+ |
| 11 | Radio Procedures | 2+ |
| 13 | Vertical Takeoff | 2+ |
| 15 | No-Hover Takeoff | 2+ |
| 17 | Transition to Forward Flight | 2+ |
| 20 | Groundspeed/Fuel Checks | 2+ |
| 29 | Normal Approach | 2+ |
| 34,35,36 | 360-, 180-, 90-Degree Approach | 2 |
| 79 | Low-Level Navigation | 2+ |
| 80 | Timing | 2+ |
| 95 | Vertical Landing | 2+ |
| | Special Syllabus Requirements | 1 |

| Blk # | Media | Title | Events | Hrs | H/X |
|-------|--------|---------------------------------|--------|-----|-----|
| I49 | TH-57C | AMSS Observe BI or RI Flight | 1 | 1.7 | 1.7 |

1. Prerequisite. C4601.

2. Syllabus Notes

a. AMSS shall observe any SNA BI or RI flight event.

b. AMSS shall call IP the night before to coordinate.

3. Special Syllabus Requirements. None.

4. Discuss Items

I4901

Observer brief, crew coordination - instrument flights, crew coordination during emergencies and lost comm.

5. Block MIF

| CTS REF | MANEUVER | I4901 |
|------------|--------------------------------|-------|
| 1 | General Knowledge/Procedures | 3+ |
| 3 | Headwork/Situational Awareness | 2 |
| 8 | CRM | 2 |

| Blk # | Media | Title | Events | Hrs | H/X |
|-------|--------|---|--------|-----|-----|
| V40 | TH-57C | AMSS Observe Night Vision Device Flight | 1 | 1.7 | 1.7 |

1. Prerequisites

- a. C4801.
- b. N4301.
- c. V0102 (NVG Lab).

2. Syllabus Notes

a. Student shall check out a pair of NVGs from the paraloft and bring them to the brief along with an NVG-configured helmet.

b. Student shall contact instructor prior to V4003 to coordinate.

c. V4003 should be flown on the Green Route forward.

d. AMS shall observe SNA V4003 flight.

3. Special Syllabus Requirements. None.

4. Discuss Items

V4003

NVG scene interpretation/descriptions, terrain assessment, atmospheric impact on NVG performance, low light level considerations, NVG navigation, route/checkpoint selection, NVG map preparation.

5. Block MIF

| CTS REF | MANEUVER | V4003 |
|------------|--------------------------------|-------|
| 1 | General Knowledge/Procedures | 3+ |
| 3 | Headwork/Situational Awareness | 2 |
| 8 | CRM | 2 |