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Flying Operations

T-6 PRIMARY FLYING

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This manual implements AFPD 11-2, *Aircraft Rules and Procedures,* 14 January 2005. It contains the basic procedures and techniques that apply to all personnel operating T-6 aircraft under operational control of Air Education and Training Command (AETC). With the exception of the associate instructor pilot (IP) programs, this manual does not apply to Air National Guard or Air Force Reserve Command units or members. While this manual primarily addresses the student pilot, it provides the general guidelines for all T-6 pilots. It addresses basic flying tasks and planning considerations and is designed to be used in conjunction with AFI 11-202, Volume 3, *General Flight Rules;* AFI 112T-6, Volume 1, *T-6A Aircrew Training;* AFI 11-2T-6, Volume 2, *T-6A Aircrew Evaluation Criteria;* AFI 11-2T-6, Volume 3, *T-6 Operations Procedures;* and Technical Order (TO) 1T-6A-1, *Flight Manual, USAF/USN Series T-6A Aircraft.*

This manual presents a solid foundation on which student training missions can be accomplished and instructor continuation training maintained. Use safety considerations as a guide in determining the best course of action for situations not specifically covered by this publication.

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1.15.1.4. If the AC, as the PNF, says "I have the aircraft" and noticeably shakes the control stick, the PF must immediately relinquish control of the aircraft, and say, "You have the aircraft." This is an example of how the order is reversed, but the roles continue to be executed.

1.15.1.5. Using the exact words is critical to establish proper habit patterns that enhance swift, unambiguous transfer of aircraft control. Do not use other words such as "it" or "jet" in lieu of the term "aircraft" as they can be misunderstood, misheard, and create confusion.

1.15.2. In the event of intercom failure, the PF signals the desire to relinquish aircraft control by smoothly pushing the rudder pedals in a back-and-forth motion, and the PNF assumes control by vigorously shaking the control stick . The pilot relinquishing control raises both hands in the air for the other pilot to see either directly from the RCP or using mirrors from the FCP.

1.15.3. Never relinquish control of the aircraft until the other pilot has positively assumed control of the aircraft (shaken the control stick).

1.15.4. Do not hesitate to relinquish control when directed by the AC.

1.15.5. Immediately query the other crewmember in case of confusion.

1.15.6. The tandem seating setup of T-6 systems can be confusing if not managed properly. It is crucial to coordinate systems use to avoid inadvertent inputs. Systems that require crew coordination include canopy, radio management unit (RMU), global positioning system (GPS), and electronic flight instrument system (EFIS) configuration. The PF controls all of the systems of the aircraft unless a transfer of that system has been clearly communicated between the crewmembers. The PNF should also communicate when transferring control of the system back to the PF.

1.16. Clearing. Each crewmember is responsible for collision avoidance - regardless of rank, experience, or cockpit position - whether instrument flight rules (IFR) or VFR. The three primary tools for clearing in the T-6 are eyes, radios, and the Naval Aircraft Collision Warning System (NACWS) or Traffic Advisory System (TAS). In addition, air traffic control (ATC) *shares* aircraft separation responsibility with the pilot and provides separation between IFR and participating VFR aircraft operating in controlled airspace. Pilots have the responsibility to clear the aircraft in all directions, and although the use of radar monitoring, assigned areas, or ATC separation can assist in ensuring clearance, it does not relieve pilots of the responsibility. The following principles apply to clearing regardless of flight conditions:

1.16.1. Visual detection is the most important factor in clearing for other aircraft. The following methods can help the pilot see other aircraft:

1.16.1.1. **Visual Scanning.** Search an area with an arc of approximately 20 to 30 degrees at a time and focus on a distant point (cloud, ground reference, etc.) within the arc for 3 to 5 seconds. After cross-checking instruments in the cockpit, it is necessary to refocus on a distant point because the eye will naturally focus at a distance of about 18 inches.

1.16.1.2. **Heading Changes.** When on a collision course, another aircraft appears stationary in the canopy and is difficult to see. The eye most readily detects line of sight

(LOS) motion. Slight heading changes can create the relative movement required for detection of the other aircraft. This method is most effective when ATC or NACWS provides traffic alerts for aircraft that are not acquired visually.

1.16.1.3. **Wing Flashes.** When an aircraft is known to be close but not visually acquired, a wing flash or rock can create the necessary movement for detection.

1.16.1.4. **Radios and NACWS or TAS.** Position reports and NACWS/TAS range or position information can help narrow visual clearing efforts to specific quadrants. Prioritize but do not channelize as the accuracy of the information provided can vary depending on specific conditions and capabilities. Knowledge of local area traffic can also cue crewmembers to the most likely areas of potential conflict.

1.16.2. If the PNF sees a hazard, point it out to the PF, indicate left or right, a clock position, and relationship to the horizon (high, level, or low). For example, "traffic, right 2 o'clock low, 2 miles, tracking right to left." See Figure 1.1, Figure 1.2, and Figure 1.3 for canopy code references.

Figure 1.1. Clock Positions.

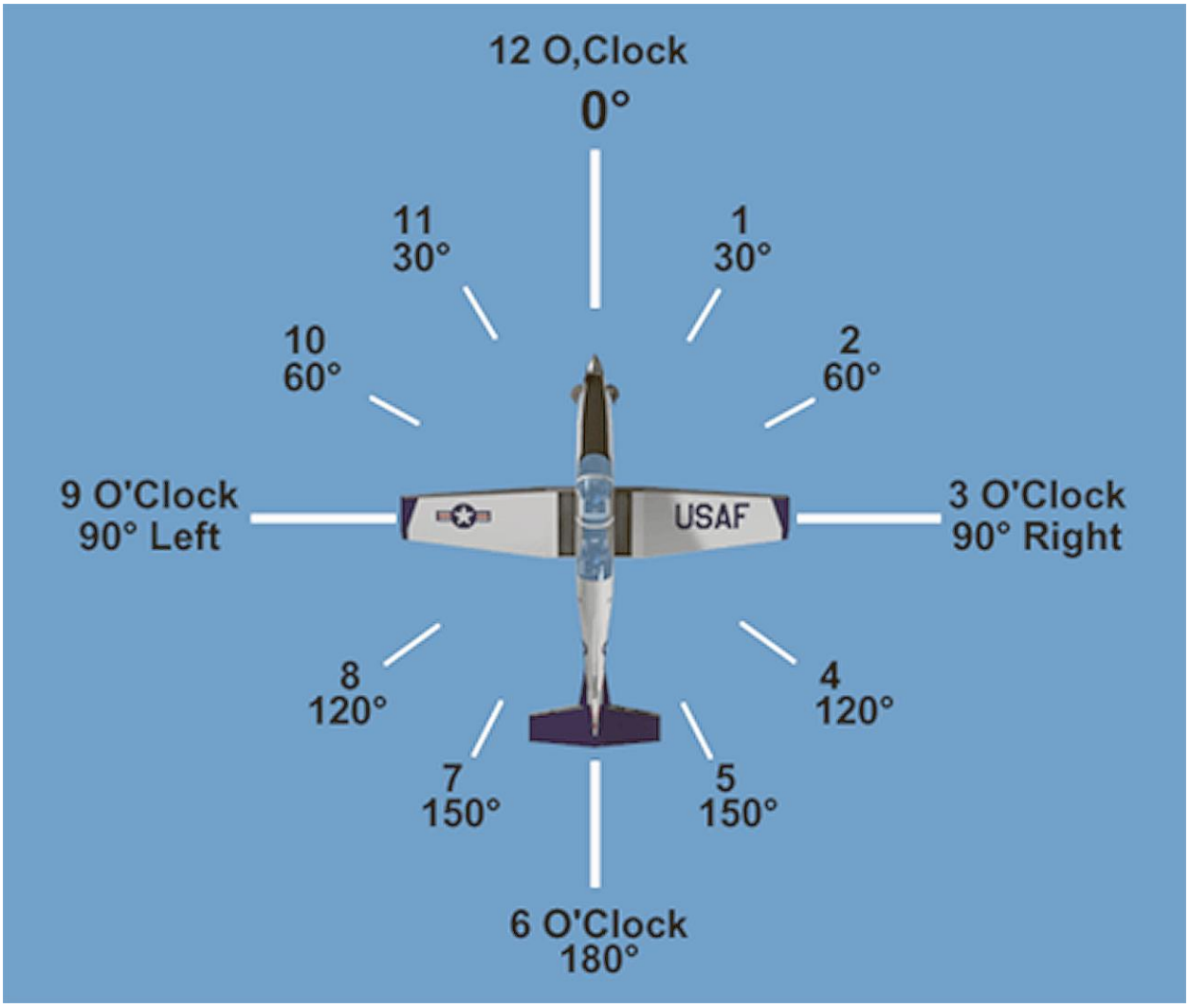
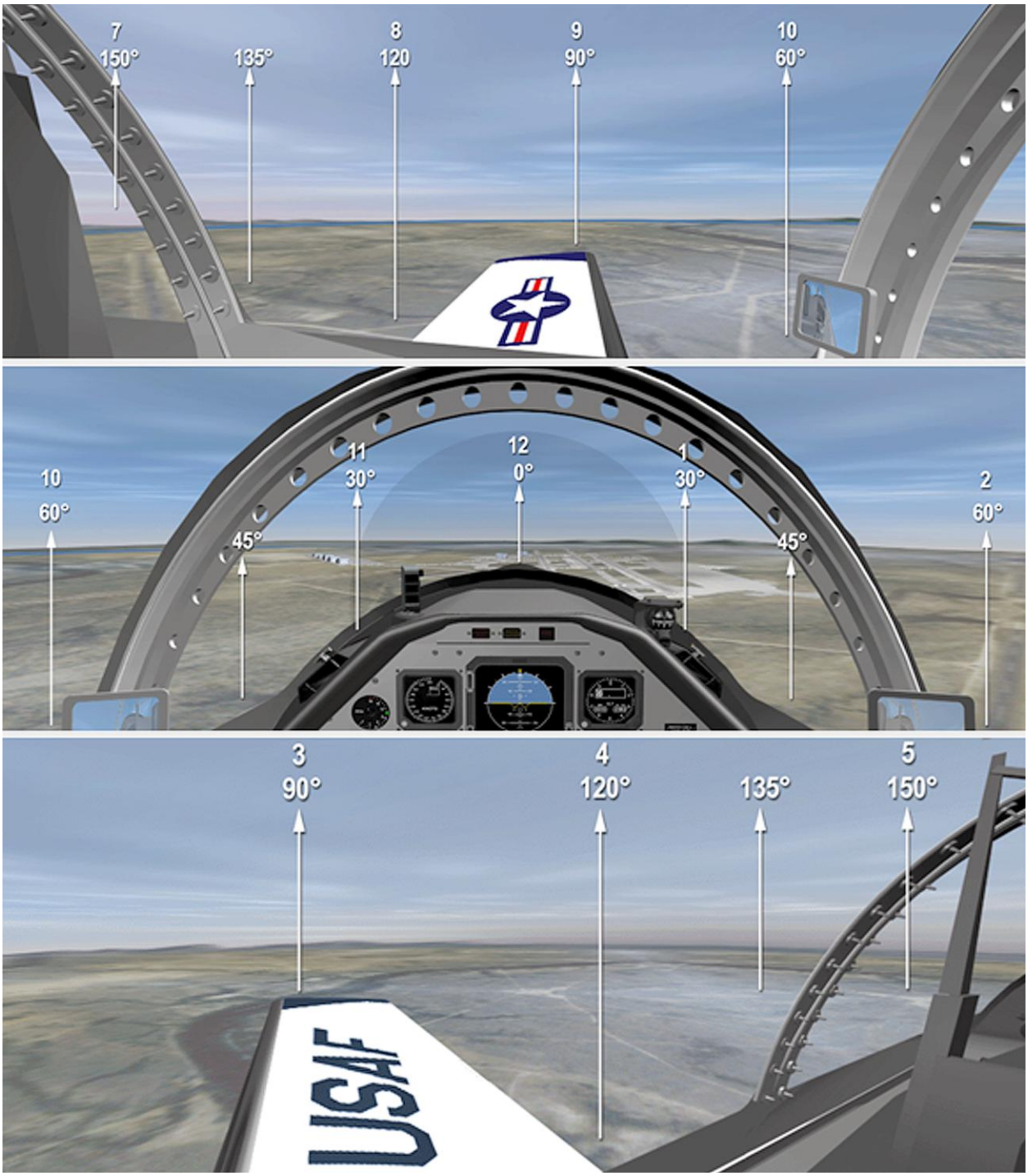


Figure 1.2. FCP Canopy Code, Elevation.

Figure 1.3. FCP Canopy Code, Azimuth.



1.16.3. If time is critical and collision is imminent, the PNF should take control of the aircraft and avoid the hazard. Ensure the intended flight path is well clear of other aircraft (500 feet minimum).

1.16.4. Be aware of the restrictions to visibility created by the canopy bows.

1.16.5. Use clearing turns when warranted to clear blind spots beneath the aircraft fuselage and wings, especially in training areas. Clearing turns can consist of turns that include high bank angles or turns of approximately 90 degrees off the established heading.

1.16.6. Local traffic patterns present the greatest collision potential. To reduce risk, military and civilian traffic patterns utilize standard procedures. While visual scans are vital in this environment, pattern procedures, including proper radio calls, are the primary means of deconfliction. The following can improve clearing in the pattern:

1.16.6.1. **Knowledge of Choke Points in the Pattern.** *Military:* 90-to-initial, VFR entry, closed downwind, high-to-low key, and the perch point. *Civilian:* pattern entry, downwind, and final.

1.16.6.2. **Proper Setting of the NACWS or TAS.** Selection of a smaller range improves usability of NACWS or TAS information in the pattern.

1.16.6.3. **Compliance with Mandatory Radio Transmissions.** They serve as position reports essential to pattern deconfliction. Likewise, other aircraft's radio transmissions help visually acquire aircraft in the pattern (commonly referred to as "clearing on the radios").

1.17. Radio Procedures. The PF is responsible for all radio calls. The PNF may transmit without transfer of aircraft control; however, the PF must be notified (see paragraph 1.15.6). **Exception:** instructors may immediately correct improper radio calls without first notifying the student. Radio procedures, definitions, and guidance are contained in the following publications: AETCI 11-204, *Runway Supervisory Unit (RSU) Operations;* AFMAN 11-217, Volume 1; FAA Aeronautical Information Manual (AIM); FLIP, *Flight Information Handbook*; and individual wing and (or) squadron instructions. Although these publications do not cover all situations, pilots should attempt to use standard phraseology as much as practical. Standard terminology minimizes radio congestion and facilitates effective communication.

1.17.1. **Clarity.** The single most important factor in pilot-controller communications is comprehension. Voicing what is required correctly through standard phraseology is paramount. Use of nonstandard and improvised phrasing, while common, only contributes to miscommunication and should be minimized. Nonstandard phraseology contributes to misunderstood clearances and aircraft mishaps. When uncertain of the meaning of standard phrases used by controlling agencies, clarify with plain language.

1.17.2. **Brevity.** Brevity is second only to clarity. Every second you are talking on the radio is a second that is unavailable to the controllers or other pilots. Provide controllers with the information needed, nothing more, nothing less, in the format expected. Likewise, do not omit needed information that may require the controller to query you for the missing information, as this also wastes air time.

1.17.2.1. Do not depress the microphone button during other transmissions. Anticipate other party's replies to ATC and pilot transmissions and do not interrupt. Try to avoid transmitting when another aircraft is in a critical phase of flight (e.g., in the flare).

1.17.2.2. Whenever possible, format radio calls as follows: agency calling, call sign, location, and request. **Example:** *"San Antonio Approach, Texan 10, Area 8 low, request Auger ILS with bravo."*