

**ARNG WARRIOR TRAINING CENTER
PATHFINDER COURSE
FORT BENNING, GEORGIA 31905**

1 October 2009

AIR TRAFFIC CONTROL SUMMARY SHEET:

INSTRUCTIONAL INTENT: To enable the Pathfinder student to organize, prepare and issue landing, takeoff and enroute air traffic information to aircraft operating at or near a landing site or drop zone.

1. **DEFINITION OF AIR TRAFFIC CONTROL:** Air Traffic Control is an agency that provides services to promote the safe and expeditious flow of air traffic.

2. **THE FOUR PURPOSES OF AIR TRAFFIC CONTROL:**
 - A. PREVENT COLLISIONS
 - B. EXPEDITE TRAFFIC
 - C. PROVIDE FLIGHT INFORMATION
 - D. AID IN SEARCH AND RESCUE

3. **THE THREE CHARACTERISTICS OF AN AIR TRAFFIC CONTROLLER:**
 - A. ACCURACY
 - B. SPEED
 - C. KNOWLEDGE

4. **SIX COMMUNICATION TECHNIQUES:**
 - A. AVOID A TOO SLOW OR TOO FAST RATE OF SPEECH
 - B. AVOID ANY DISPLAY OF EMOTION, NERVOUSNESS, INDECISION OR EXCITEMENT
 - C. AVOID A MONOTONOUS PITCH
 - D. SPEAK DIRECTLY INTO THE MICROPHONE
 - E. SPEAK IN A NORMAL CONVERSATIONAL TONE
 - F. SPEAK WITH CONFIDENCE

5. **FLIGHT INFORMATION:**
 - A. **PERTINENT INFORMATION** is that information pertaining directly to your landing site.
 1. SIGNAL ON CALL
 2. DESCRIPTION OF THE LANDING SITE
 3. CONDITIONS AT THE LANDING SITE
 4. FIELD ELEVATION OF THE LANDING SITE (Night operations only)

B. ADVISORY INFORMATION: Advisory information is information that the pilot must know in order to avoid a potentially hazardous situation. All advisories will begin with "Be Advised."

1. TURBULENCE AT OR NEAR THE SITE
2. OBSTACLES/HAZARDS
3. ARTILLERY/MORTAR FIRE
4. ENEMY SITUATION
5. WEATHER

6. Traffic Pattern: The standard traffic pattern extends in all directions for a distance of one statute mile from the center line of the landing site, for forward areas primarily using rotary wing and small fixed wing aircraft. The normal altitude that a pilot will fly the pattern is termed "civil altitude" and is between 1000 and 1200 feet above ground level (AGL).

Primarily, the traffic pattern is used to maintain control of aircraft in and around a landing site, airfield or drop zone.

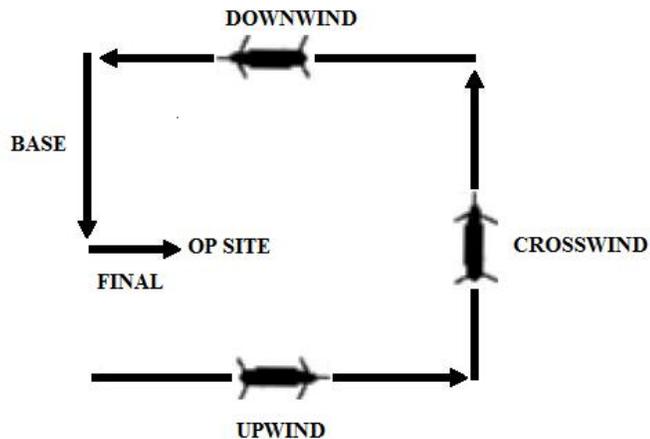
Also, the traffic pattern is used to control aircraft around a no-threat-landing site to ensure aircraft separation. Rotary wing aircraft may enter from any point or direction as long as it is consistent with safety requirements. The altitude is determined by height of the obstacles or the aircraft requirements and may be adjusted as the situation dictates.

The standard traffic pattern consists of five legs:

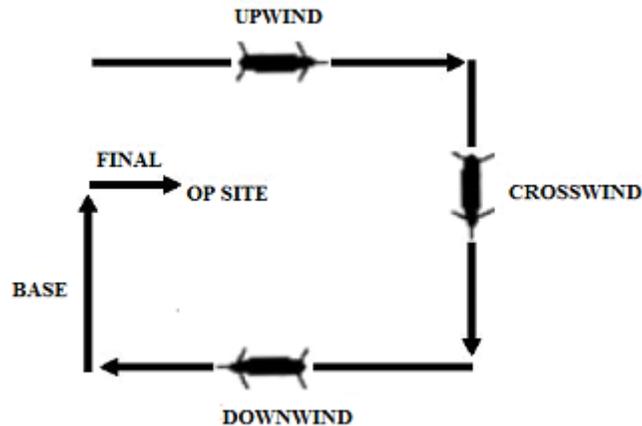
- 1) THE UPWIND LEG (REPORT BASE)
- 2) THE CROSSWIND LEG (REPORT BASE)
- 3) THE DOWNWIND LEG (REPORT BASE)
- 4) THE BASE LEG (REPORT FINAL)
- 5) THE FINAL APPROACH LEG (REPORT ENTRY)

STANDARD TRAFFIC PATTERNS

LEFT TRAFFIC



RIGHT TRAFFIC



- A.** Left traffic is when the aircraft makes all left turns. Right traffic is when the aircraft makes all right turns. Normally, right traffic is best suited for rotary wing aircraft because the pilot sits in the right seat of rotary wing aircraft. However, the most expeditious pattern should be used.
- B.** A modified traffic pattern is a traffic pattern consisting of 2, 3, or 4 legs.
- C.** When an aircraft is within 30 degrees of the final approach leg the aircraft can be cleared for a straight-in approach. A straight-in approach may be expeditious to a pilot as long as it is within safety requirements.
- D.** The minimum pattern that can be flown is the straight-in approach. Regardless of what type of approach is made, the final approach leg must always be flown.
- E.** The type of approach most commonly encountered by the Pathfinder will be the circling approach. A circular approach can be conducted when a pilot is unfamiliar with the site. He may enter the final leg as long as it will not conflict with the normal flow of traffic.
- F.** A situation may arise where additional airspace between aircraft in the traffic pattern is needed. There are two primary methods:
 - 1) The 360-degree turnout: When this command is given to the slower aircraft, it will immediately bank away from the site and execute a standard two-minute turnout, thus preventing collision. An aircraft cannot execute the 360-degree turnout while on the final approach leg.
 - 2) Extending one or more legs of the traffic pattern: will provide the desired spacing and is also used to prevent collisions.
 - a) The normal length of the extension is one statute mile.
 - b) The base and final approach legs cannot be extended.
- G.** The closed traffic pattern: The aircraft in a closed pattern will continue to orbit the

site at the specified altitude. There are two closed traffic patterns, Right and Left closed traffic. Closed traffic is required when the aircraft does not land on the first approach or during drop zone operations when an aircraft is required to make more than one pass over a drop zone.

H. Rotary wing aircraft can enter anywhere in the traffic pattern as long as it is consistent with safety requirements.

7. Aircraft Landing Priority: There are six priorities for landing aircraft at your site.

1. AIRCRAFT WITH AN IN-FLIGHT EMERGENCY
2. MEDEVAC AIRCRAFT WITH GROUND MEDEVAC
3. CODED AIRCRAFT (1 -8)
4. FLIGHT OF TWO OR MORE AIRCRAFT
5. AIRCRAFT WITH AN EXTERNAL LOAD
6. SINGLE AIRCRAFT

8. Cardinal Rules: There are three cardinal rules for arriving and departing aircraft.

- A.** Arriving aircraft will not be given clearance to land at a landing point until all preceding aircraft have taxied from or flown forward of the designated landing point.
- B.** Departing aircraft will not be cleared for departure until all preceding aircraft have flown clear of the forward landing point. This is to prevent one aircraft from over-flying another. Departing aircraft will normally depart on the same heading as landing or as close to it as possible, depending ultimately upon the wind direction. When the aircraft's destination is not in the direction of departure, the aircraft may fly a portion of the traffic pattern. The GTA's responsibility is to ensure that arriving and departing aircraft do not conflict.
- C.** Never allow a slingload aircraft to fly over personnel, equipment or another aircraft at any time.

NOTE: If an aircraft has already been given clearance for landing and a situation arises where it is unsafe to land, the pilot must be instructed to "**GO AROUND.**"

9. The Pathfinder should anticipate an active electronic warfare environment for all operations and ensure that he is familiar with the proper counter-countermeasure to be used; e.g. pro-words that indicate the switch to an alternate frequency; transmission authentication procedures; brevity codes and required reports to be initiated when enemy interference is suspected. Proper radio telephone operator (**RTO**) procedures and communications electronic operating instructions (**CEOI**) will be utilized during all operations.

Air traffic control is used primarily for administrative and logistical operations where large numbers of aircraft or different types with different missions will be operating. Many of these operations will be conducted without prior pilot briefing; therefore it is

essential that the airspace in and around the sites be managed.

During actual tactical air assault operation, prior planning must be conducted in order to reduce the electronic communications between the Pathfinder/DZSTL and air elements. It is essential to minimize or eliminate electronic signatures during tactical operations, e.g. counter-measures, pro-words and authentication procedures. Pre-mission coordination with aviation and ground assets will enable you to eliminate or reduce transmission time to a minimum for success.

When possible, PFDR/DZSTL elements should be inserted prior to the operation in order to establish the site, however, operational necessity may dictate that assault forces land on unmarked, unmanned sites based on aerial and or map reconnaissance. In this case, PFDR trained elements should be inserted on the initial assault in order to establish the site based on all the influencing factors and real time conditions; e.g. ground conditions, obstacles and enemy situation or changing factors that could influence the operation. Any variation in the mission or conditions that influence the operation must be managed. Most air movements will require the establishment of a communications check point (CCP) to ensure a common point from which the Pathfinder and the aircraft can reference their relative position and provide each other time to adjust to any additional changes.

REFERENCES:

FM 3-21.38

FAA 7110.65 P

GTA BLOCK

HEADING _____ **DISTANCE** _____

DROP/LAND HEADING _____

DROP SPEED _____ **DROP ALT.** _____

PERT. INFO. _____

_____ **JUMPERS**

> PER PASS

_____ **BUNDLES**

FIELD ELEVATION _____

ADVISORIES _____
