

## ADVISORY CIRCULAR

Subject	Date	AC Number	Version
Non-Towered Aerodrome and Uncontrolled Airspace Flight Operations	Feb-03-2022	091-02	1.0

**Note: THIS ADVISORY CIRCULAR IS PUBLISHED TO PROVIDE REGULATORY INFORMATION.**  
**CHAPTER 1 – INTRODUCTION**

### 1.1 Purpose

This AC calls attention to regulatory requirements, recommended operations, and communications procedures for operating at an aerodrome without a control tower or an aerodrome with limited operation hours. It recommends traffic patterns, communications phraseology, and operational procedures for use by all aircrafts. This AC stresses safety as the primary objective in these operations. This AC is related to the right-of-way rules under GACAR part 1, § 1.1 (traffic pattern), and part 91, §§ 91.61- Right of Way Rules: Except Water Operations, and 91.121- Operating on or in the Vicinity of an Aerodrome in Class G Airspace.

### 1.2 Applicability

This AC applies to aircraft operators operating at or in the vicinity of an aerodrome without a control tower or an aerodrome with a control tower during the non-operating hours.

### 1.3 Cancellation.

This is the first official version of this advisory circular, and it cancels no other advisory circular on the subject matter.

### 1.4 Related Regulatory references

- GACAR Part 91 - §§ 91.61- Right of Way Rules: Except Water Operations, and 91.121- Operating on or in the Vicinity of an Aerodrome in Class G Airspace.
- KSA AIP 1.1.5

### 1.5 WHERE CAN YOU FIND THIS AC.

- You can find this AC on the GACA website at:
  - o [https://gaca.gov.sa/scs/Satellite?c=Page&cid=1440406702069&locale=en\\_GB&pagename=GACA%2FPage%2FGACA\\_ContentDetail\\_PT](https://gaca.gov.sa/scs/Satellite?c=Page&cid=1440406702069&locale=en_GB&pagename=GACA%2FPage%2FGACA_ContentDetail_PT)

### 1.6 Definitions of Terms Used in this Advisory Circular.

<b>Aerodromes Without Operating Control Towers:</b>	Aerodromes without control towers or Aerodromes with control towers that are not operating. These Aerodromes are commonly referred to as non-towered or part-time-towered Aerodromes. Another term commonly used is “uncontrolled Aerodrome.”
<b>Class G airspace:</b>	Uncontrolled airspace or Class G airspace is the portion of the airspace that has not been designated as Class A, B, C, D, or E. It is therefore designated uncontrolled airspace. Class G airspace extends from the surface to the base of the overlying Class E airspace.

## CHAPTER 2 – Uncontrolled Aerodrome Operations

### 2.1 Introduction/Background.

2.1.1 While the stipulated regulations for flight operations in an uncontrolled aerodrome have already been in place, GACA has noticed, through its analysis of safety data, that a recent increase of unsafe air traffic occurrences was primarily caused by the noticeable increase in air traffic in the uncontrolled aerodromes and the occasional lack of adherence to the stipulated regulations by some of the aircraft operators.

2.1.2 In order to promote safety, GACA has issued this AC to stress the necessity to follow GACA stipulated rules when operating at an aerodrome without an operating control tower. This AC provides frequency information, good operating practices, and procedures for pilots to follow while operating at such aerodromes. Moreover, the observance of a standard traffic pattern and the use of TIBA procedures as detailed in this AC will improve the safety and efficiency of aircraft operations while operating in aerodrome without an operating control tower.

2.1.3 Regulatory provisions relating to traffic patterns are found in GACAR parts 91, 93, and 97. The aerodrome traffic patterns described in part 93 relate primarily to those aerodromes where there is a need for unique traffic pattern procedures not provided in part 91. Additionally, Part 97 addresses instrument approach procedures (IAP). Part 91 requires that pilots of airplanes approaching to land, make all turns to the left at aerodromes without operating control towers.

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## CHAPTER 3 – General Operating Practices

**3.1 Left Traffic.** Use of standard traffic patterns (left turns) for all aircraft and the (TIBA) procedures published in the KSA AIP by radio-equipped aircraft are required at all aerodromes without operating control towers unless indicated otherwise by visual markings, light gun signals, aerodrome publications, or published approach procedure. It is recognized that other traffic patterns (right turns) may already be in common use at some aerodromes or that special circumstances or conditions exist that may prevent use of the standard traffic pattern. Right-hand patterns are noted at aerodromes on an aeronautical chart with an “RP” designator and the applicable runway next to the aerodrome symbol.

**3.2 Collision Avoidance.** The pilot in command’s (PIC) primary responsibility is to see and avoid other aircraft and to help them see and avoid his or her aircraft. Keep lights and strobes on. The use of any traffic pattern procedure does not alter the responsibility of each pilot to see and avoid other aircraft.

**3.3 Preflight Actions.** As part of the preflight familiarization with all available information concerning a flight, each pilot should review all appropriate publications (e.g., Chart Supplements, the KSA AIP, and NOTAMs), for pertinent information on current traffic patterns at the departure and arrival aerodromes.

**3.4 Traffic Flow.** It is recommended that pilots use visual indicators, such as the segmented circle, wind direction indicator, landing direction indicator, and traffic pattern indicators that provide traffic pattern information. If other traffic is present in the pattern, arriving or departing aircraft should use the same runway as these aircraft. Transient aircraft may not know local ground references, so pilots should use standard pattern phraseology, including distances from the aerodrome.

**3.5 Straight-In Landings.** GACA encourages pilots to use the standard traffic pattern when arriving or departing a non-towered aerodrome or a part-time-towered aerodrome when the control tower is not operating, particularly when other traffic is observed or when operating from an unfamiliar aerodrome. However, there are occasions where a pilot can choose to execute a straight-in approach for landing when not intending to enter the traffic pattern, such as a visual approach executed as part of the termination of an instrument approach. Pilots should clearly communicate on the (TIBA) frequency and coordinate maneuvering for and execution of the landing with other traffic so as not to disrupt the flow of other aircraft. Therefore, pilots operating in the traffic pattern should be alert at all times to aircraft executing straight-in landings, particularly when flying a base leg prior to turning final.

**3.6 Instrument Flight Rules (IFR) Traffic.** Pilots conducting instrument approaches should be particularly alert for other aircraft in the pattern so as to avoid interrupting the flow of traffic and should bear in mind they do not have priority over other VFR traffic. Pilots are reminded that circling approaches require left-hand turns unless the approach procedure explicitly states otherwise. The reference is GACAR § 91.121(b).

3.6.1 Non-instrument-rated pilots might not understand radio calls referring to approach waypoints, depicted headings, or missed approach procedures. IFR pilots often indicate that they are on a particular approach, but that may not be enough information for a non-IFR-rated pilot to know your location. It is better to provide specific direction and distance from the aerodrome, as well as the pilot’s intentions upon completion of the approach. For example, instead of saying, “PROCEDURE TURN INBOUND V-O-R APPROACH 36,” it should be “6 MILES SOUTH ... INBOUND V-O-R APPROACH RUNWAY 36, LOW APPROACH ONLY” or “6 MILES SOUTH... INBOUND V-O-R APPROACH

RUNWAY 36, LANDING FULL STOP.”

**3.7 No-Radio Aircraft.** Pilots should be aware that procedures at aerodromes without operating control towers generally do not require the use of two-way radios; therefore, pilots should be especially vigilant for other aircraft while operating in the traffic pattern. Pilots of inbound aircraft that are not capable of radio communications should determine the runway in use prior to entering the traffic pattern by observing the landing direction indicator, the wind indicator, landing and departing traffic, previously referring to relevant aerodrome publications, or by other means.

**3.8 Wake Turbulence.** All aircraft generate wake turbulence. Therefore, pilots should be prepared to encounter turbulence while operating in a traffic pattern and especially when in the trail of other aircraft. Wake turbulence can damage aircraft components and equipment. In flight, avoid the area below and behind the aircraft generating turbulence, especially at low altitude where even a momentary wake encounter can be hazardous. All operators should be aware of the potential adverse effects that their wake, rotor, or propeller turbulence has on light aircraft and ultralight vehicles.

**3.9 Other Approaches to Land.** Pilots should be aware of the other types of approaches to land that may be used at an aerodrome when a pilot indicates they are doing so, which may or may not be initiated from the traffic pattern. The more common types of these include a short approach, low approach, or overhead approach.

3.9.1 A short approach is executed when the pilot makes an abbreviated downwind, base, and final legs turning inside of the standard 45-degree base turn. This can be requested at a towered aerodrome for aircraft spacing but is more commonly used at a non-towered aerodrome or a part-time-towered aerodrome when the control tower is not operating, when landing with a simulated engine out or completing a power-off 180-degree accuracy approach commercial-rating maneuver.

3.9.2 A low approach is executed when an aircraft intends to overfly the runway, maintaining runway heading but not landing. This is commonly used by aircraft flying practice instrument approaches.

3.9.3 An overhead approach is normally performed by aerobatic or high-performance aircraft and involves a quick 180-degree turn and descent at the approach end of the runway before turning to land.

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## CHAPTER 4 – COMMUNICATIONS PROCEDURES

**4.1 Recommended Traffic Advisory Practices.** All traffic within a 20-mile radius of a non-towered aerodrome or a part-time-towered aerodrome when the control tower is not operating should continuously monitor and communicate, as appropriate, on the designated (TIBA) frequency until leaving the area or until clear of the movement area. After first monitoring the frequency for other traffic present passing within 20 miles from the aerodrome, self-announcing of your position and intentions should prior to 20 miles from the aerodrome upon arrival. Departing aircraft should continuously monitor/communicate on the appropriate frequency from startup, during taxi, and until 20 miles from the aerodrome, unless the GACARs or local procedures require otherwise.

4.1.1 To achieve the greatest degree of safety, it is essential that:

1. All radio-equipped aircraft transmit/receive on a common frequency identified for the purpose of aerodrome advisories, as identified in appropriate aeronautical publications.
2. Pilots use the correct aerodrome name, as identified in appropriate aeronautical publications, when exchanging traffic information to reduce the risk of confusion.
3. To help identify one aerodrome from another, the correct aerodrome name should be spoken at the beginning and end of each self-announce transmission.
4. Pilots clarify intentions if a communication sent by either their aircraft or another aircraft was potentially not received or misunderstood.
5. Pilots limit communications on (TIBA) frequencies to safety-essential information regarding arrivals, departures, traffic flow, takeoffs, and landings. (TIBA) frequency should not be used for personal conversations.

**4.1.3 Self-Announce Position and/or Intentions.** “Self-announce” is a procedure whereby pilots broadcast their aircraft call sign, position, altitude, and intended flight activity or ground operation on the designated (TIBA) frequency. This procedure is used almost exclusively at aerodromes that do not have an operative control tower or an AFIS on the aerodrome. If an aerodrome has a control tower that is either temporarily closed or operated on a part-time basis, and there is no operating AFIS on the aerodrome, pilots should use the published (TIBA) frequency to self-announce position and/or intentions when entering within 20 miles of the aerodrome.

**4.1.6 Practice Instrument Approaches.** Pilots conducting practice instrument approaches should be particularly alert for other aircraft that may be departing in the opposite direction or on a base leg or final approach to the runway associated with the approach. Conducting any practice instrument approach, regardless of its direction relative to other aerodrome operations, does not take priority over other VFR aircraft. Pilots should be ready to communicate on (TIBA) frequency, discontinue the approach, and enter a traffic pattern as needed, based on the traffic saturation of the aerodrome and/or the current runway in use, to maintain aircraft separation and aviation safety. Pilots are reminded that circling approaches, practice or actual, require left-hand turns unless the approach procedure explicitly states otherwise. The regulatory reference is GACAR § 91.121(b).

**4.1.7 Disagreements.** Do not correct other pilots on frequency (unless it is safety critical), particularly if you are aware that you are correcting a student pilot. If you disagree with what another pilot is doing, operate your aircraft safely, communicate as necessary, clarify their intentions and, if you feel you must discuss operations with another pilot, wait

until you are on the ground to have that discussion. Keep in mind that while you are communicating, you may block transmissions from other aircraft that may be departing or landing in the opposite direction to your aircraft due to IFR operations, noise abatement, obstacle avoidance, or runway length requirements. An aircraft might be using a runway different from the one favoring the prevailing winds. In this case, one option is to simply point out the current winds to the other pilots and indicate which runway you plan on using because of the current meteorological conditions.



## CHAPTER 5 – RECOMMENDED STANDARD TRAFFIC PATTERN

**5.1 Traffic Pattern Design.** GACA encourages pilots to establish traffic patterns as recommended in this AC. Further, left traffic patterns should be established, except where obstacles, terrain, and noise-sensitive areas dictate otherwise (see Appendix A, Traffic Patterns).

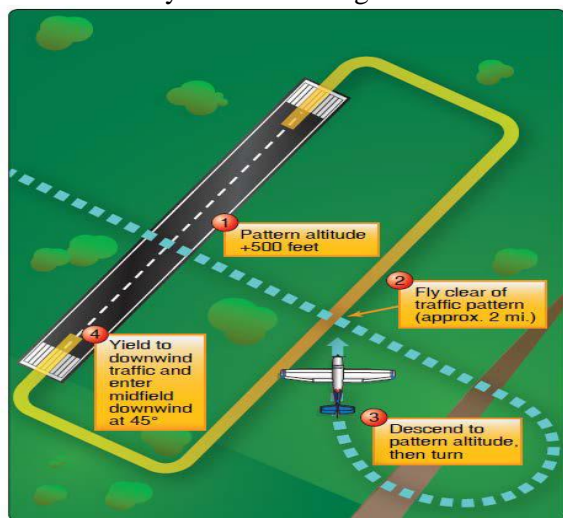
**5.2 Determination of Traffic Pattern.** Prior to entering the traffic pattern at an aerodrome without an operating control tower, aircraft should avoid the flow of traffic until established on the entry leg. For example, the pilot can check wind and landing direction indicators while at an altitude above the traffic pattern, or by monitoring the communications of other traffic that communicate the runway in use, especially at aerodromes with more than one runway. When the runway in use and proper traffic pattern direction have been determined, the pilot should then proceed to a point well clear of the pattern before descending to and entering at pattern altitude.

**5.3 Traffic Pattern Entry.** Arriving aircraft should be at traffic pattern altitude and allow for sufficient time to view the entire traffic pattern before entering. Entries into traffic patterns while descending may create collision hazards and should be avoided. Entry to the downwind leg should be at a 45-degree angle abeam the midpoint of the runway to be used for landing. The pilot may use discretion to choose an alternate type of entry, especially when intending to cross over midfield, based upon the traffic and communication at the time of arrival.

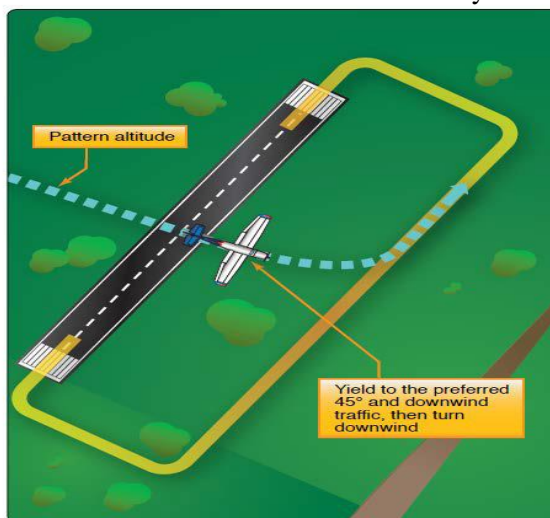
**Note:** Aircraft should always enter the pattern at pattern altitude, especially when flying over midfield and entering the downwind directly. A midfield crossing alternate pattern entry should not be used when the pattern is congested. Descending into the traffic pattern can be dangerous, as one aircraft could descend on top of another aircraft already in the pattern. All similar types of aircraft, including those entering on the 45-degree angle to downwind, should be at the same pattern altitude so that it is easier to visually acquire any traffic in the pattern.

**Figure 1. Preferred and Alternate Entry When Crossing Midfield**

Preferred Entry When Crossing Over Midfield



Alternate Midfield Entry





**5.4 Traffic Pattern Altitudes.** It is recommended that airplanes observe a 1,000 foot above ground level (AGL) traffic pattern altitude. Large and turbine-powered airplanes should enter the traffic pattern at an altitude of 1,500 feet AGL or 500 feet above the established pattern altitude. Ultralight aircraft should operate no higher than 500 feet below the powered aircraft pattern altitude. A pilot may vary the size of the traffic pattern depending on the aircraft's performance characteristics.

**5.5 Descent and Base Turn.** The traffic pattern altitude should be maintained until the aircraft is at least abeam the approach end of the landing runway on the downwind leg. The base leg turn should commence when the aircraft is at a point approximately 45 degrees relative bearing from the approach end of the runway.

**5.6 Runway Preference.** Landing and takeoff should be accomplished on the operating runway most nearly aligned into the wind. However, if a secondary runway is used (e.g., for length limitations), pilots using the secondary runway should avoid the flow of traffic to the runway most nearly aligned into the wind.

**5.7 Takeoff and Go-Around.** Airplanes on takeoff should continue straight ahead until beyond the departure end of the runway. Aircraft executing a go-around maneuver should continue straight ahead, beyond the departure end of the runway, with the pilot maintaining awareness of other traffic so as not to conflict with those established in the pattern. In cases where a go-around was caused by an aircraft on the runway, maneuvering parallel to the runway may be required to maintain visual contact with the conflicting aircraft.

**5.8 Turning Crosswind.** Airplanes remaining in the traffic pattern should not commence a turn to the crosswind leg until beyond the departure end of the runway and within 300 feet below traffic pattern altitude. Pilots should make the turn to downwind leg at the traffic pattern altitude.

**5.9 Departing the Pattern.** When departing the traffic pattern, airplanes should continue straight out or exit with a 45-degree left turn (right turn for right traffic pattern) beyond the departure end of the runway after reaching pattern altitude. Pilots need to be aware of any traffic entering the traffic pattern prior to commencing a turn.

**5.10 Airspeed Limitations.** Airplanes should not be operated in the traffic pattern at an indicated airspeed of more than 200 knots.

**5.11 Right-of-Way.** Throughout the traffic pattern, right-of-way rules apply as stated in GACAR § 91.61; any aircraft in distress has the right-of-way over all other aircraft. In addition, when converging aircraft are of different categories, a balloon has the right-of-way over any other category of aircraft; a glider has the right-of-way over an airship, airplane, or rotorcraft; and an airship has the right-of-way over an airplane or rotorcraft.

**Note:** Parachute operations are subject to GACAR Part 105. Parachute operators, besides being required to coordinate their operations with the aerodrome manager before they take place and utilizing proper radio notification during operations, should make a conscious effort to avoid creating a hazard to air traffic by minimizing disruptions to other aircraft and aerodrome operations.

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