

Honorable Mayor Coppernoll and Members of the City Council,

I am writing to request the traffic pattern for 17 at Richland Airport to be returned back to standard left traffic. Please see attached petition with signatures requesting 17 be changed back to standard left traffic.

Paperwork was submitted last fall to the Wisconsin BOA without discussion with local pilots, city council members, or the Mayor. I have had a number of discussions with Hal Davis and he has stated the BOA “always recommends standard left traffic”. I think it is also important to point out the traffic pattern direction is the owners decision. Hal states while the “BOA may discuss a proposed change, the BOA has no authority to approve/reject a proposed traffic pattern change”. Hal agreed to write a statement and send to all council members that will define the roles of the airport owner verse’s the BOA and FAA who just publishes the decision. The BOA and FAA have no idea what discussions took place locally, they can only assume this was discussed and the change was warranted.

Please see attached FAA AC-90-66A, as this document spells out standards for traffic patterns at non towered airports. While the document recommends standard left traffic, if the airport has right traffic it states indicators on the ground are required. How much will this cost to update the area near the windsock at Richland airport if the decision is to keep right traffic for 17? See the highlighted text in the document “visual markings to indicate that turns should be made to the right”. I have attached a picture of Waupaca airport that has right traffic; this is what would be needed at Richland airport.

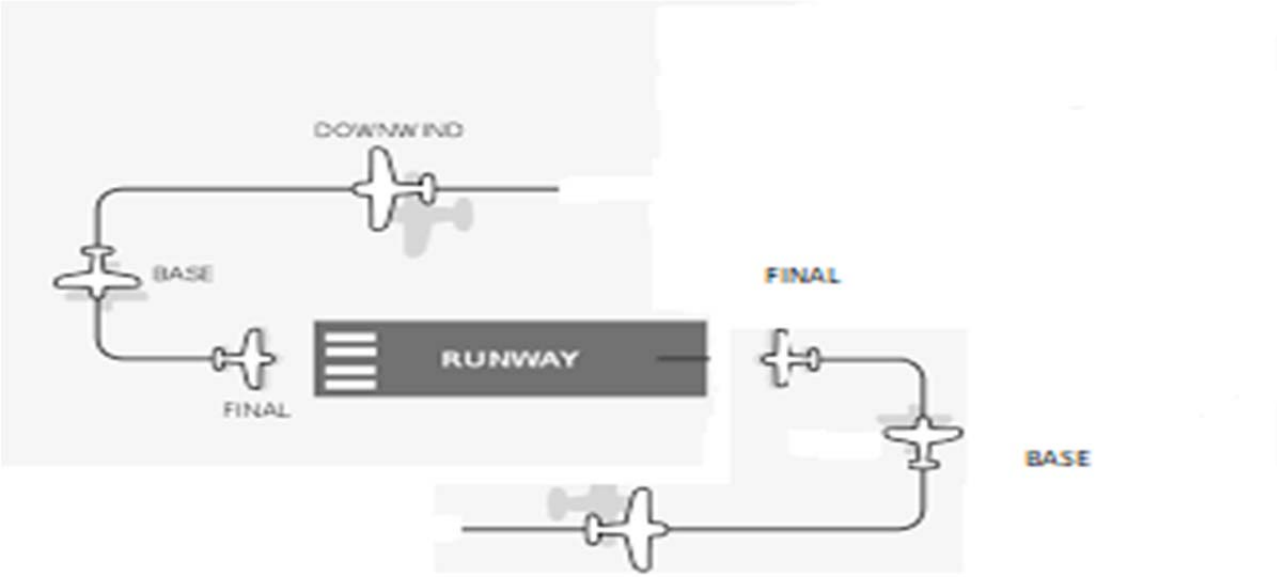


After the city council meeting on 6-6-23 we had a discussion with Dave Fry outside and the topic of noise complaints came up. He said he did receive some complaints. I asked for a list of names and he didn't have any. He thought Wendy Hottenstein did. I reached out to Wendy and she has not received any noise complaints. (See attached email from Wendy) Dave mentioned he gets phone calls about the other flying club. After telling him I wasn't aware of another flying club, he said the guys with the parachutes. There are couple things to note about the powered parachutes. First, they no longer train at the Richland Airport. Secondly, they fly really low and slow; the traffic pattern change that is in discussion does not apply to this group of aircraft. Conversely, using noise complaints, about the powered parachutes to change the direction of traffic for fixed wing aircraft does not make any sense.

The greater concern with this change is concentrating all traffic to the west of the airport for runways 17 and 35. A study by AOPA (Aircraft Owners and Pilots Association) for the yearly Nall Safety Report notes; "78% of midair collisions occurred in the traffic pattern at non-towered airports". If you review the data, these midair conflicts happen near the downwind and pattern entry areas. With the recent change at Richland Airport you now have created a situation to have two planes flying at one another. The picture below illustrates what could happen on a calm windless day. The white Cessna is on a left traffic pattern flying south. The yellow airplane is on a right traffic pattern flying north. They are on a collision course.



The picture below is showing no conflict when both runways use standard left traffic.



Airplanes on left traffic for opposing runways, no in air conflict.

The large hill that Mike Kaufman refers to has an elevation of 1025. The traffic pattern altitude at Richland airport is 1700. That means a pilot would have to be

675 below the traffic pattern to be in conflict with the terrain. If a pilot did skim the branches, as Mike mentions, it is pilot error and one instance does not justify changing the traffic pattern. I also could not find a report of this instance in the FAA database. I am sure if this did happen, an Aviation Safety Report would have been filled out. With today's GPS technology, even the cheapest avionics offer obstacle warnings and terrain avoidance. Anyone flying at night will have this equipment.

I have tried to write this document to verify every statement with facts and the appropriate resources are below for your own research. If you have any questions feel free to contact me. Email Jperkins@mwt.net

Respectfully Jason Perkins

Review of main topics:

- Airport has used the standard left hand traffic for 76 years without incident. Statistically one of the safest airports in the area according to FAA and NTSB.
- The Wisconsin Bureau of Aeronautics recommends standard left hand traffic and also the FAA.
- The BOA has no authority to approve/reject proposed traffic direction.
- A petition of 25 plus local pilots requesting it be changed back.
- Wendy Hottenstein has not received any noise complaints.
- Noise complaint Dave received was for Powered Parachutes that do not use standards traffic patterns and fly low to the ground
- What is cost to add chevrons indicating right traffic in segmented circle?
- Concentrating air traffic on West of field creates safety issue for in air collision's.

Sources:

Link to Collision Avoidance in Traffic Patterns Embry-Riddle Aeronautical University

<https://commons.erau.edu/cgi/viewcontent.cgi?article=1537&context=jaaer>

Link to FAA Recommended Standard Traffic Patterns document

https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC90-66A.pdf

Link to NTSB (National Transportation Safety Board) to search Accident data at Richland VS other local airports

<https://data.nts.gov/carol-main-public/landing-page>

Link to Article written by Hal Davis he wrote for Midwestflyer.com September of 2019 explaining the importance of standard left traffic patterns.

<https://midwestflyer.com/?p=12748>

Link to FAA regulation 91.126 “Each pilot of an airplane must make all turns of that airplane to the left unless the airport displays approved light signals or visual markings indicating that turns should be made to the right”

<https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-91/subpart-B/subject-group-ECFR4c59b5f5506932/section-91.126>



Jason Perkins <jperkins@sscycycle.com>

RE: Richland Airport

1 message

Hottenstein, Wendy - DOT <Wendy.Hottenstein@dot.wi.gov>
To: Jason Perkins <jperkins@sscycycle.com>

Tue, Jun 13, 2023 at 1:49 PM

Hi Jason,

I have not received any noise complaints. I faintly remember many years ago when we first built the paved runway in the 1990's and they were also building that subdivision near the airport, there was a little grumbling from a person or two in that subdivision... but other than that, I don't recall receiving any complaints.

Wendy Hottenstein, P.E.

Airport Development Engineer - Project Manager

Wis DOT - Bureau of Aeronautics

4822 Madison Yards Way, 5th Floor South

Madison, WI 53705

Phone: 608-261-6278

Fax: 608-267-6748

Email: wendy.hottenstein@dot.wi.gov

From: Jason Perkins <jperkins@sscycycle.com>
Sent: Tuesday, June 13, 2023 1:42 PM
To: Hottenstein, Wendy - DOT <Wendy.Hottenstein@dot.wi.gov>
Subject: Richland Airport

**CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Hi Wendy,

Recently 93C changed runway 17 to a right traffic pattern. One of the reasons was to reduce noise over the village of Sextonville. I had asked Dave Fry if he had a list of names who had complained and he did not have one. He thought that you may have fielded some calls/complaints about noise at 93C. Would you happen to have any documentation of complaints and type of aircraft if you received any noise complaints?

Subject **RE: Richland Airport**
From Davis, Howard - DOT <Howard.Davis@dot.wi.gov>
To jperkins@mwt.net <jperkins@mwt.net>
Cc Platts, Thomas S - DOT (Max) <thomas.platts@dot.wi.gov>, David Fry <dave.fry@richlandcenterwi.gov>, Grossenbacher, Jurg (FAA) <Jurg.Grossenbacher@faa.gov>
Date 2023-05-01 13:45



Good Afternoon Jason,

Thank you for the email. I appreciate and do not disagree with your concerns. However, you misunderstand the State's role in this process. Traffic pattern direction is the airport owner's decision and is a data element recorded and published by the FAA. As was requested of me during my inspection of the airport last summer, I passed along FAA Form 7480 to Dave, which is the required paperwork. Dave, or another representative of the City of Richland Center, could have filled out and submitted the paperwork without involving the State. While BOA may discuss a proposed change such as this with an airport sponsor from time to time, BOA has no authority to approve/reject a proposed traffic pattern change.

As I mentioned in my previous email, BOA always recommends standard left traffic and I am unaware of what local conversations were had leading up to the change at 93C.

If you or any other pilots would like the traffic pattern changed back to left traffic, discuss it with the City of Richland Center. I've copied Dave Fry to this email.

Additionally, I've copied my supervisor, Max Platts and Jurg Grossenbacher, FAA Safety Team Program Manager at the Milwaukee FSDO.

Thank you,

Hal Davis, C.M. | Airport Compliance Manager
Wisconsin Department of Transportation | Bureau of Aeronautics
howard.davis@dot.wi.gov | 608-267-2142

The city does not have an airport committee to my knowledge. But we are in the process of getting signatures of local pilots to get this reversed.

Do you have a safety contact with the FAA I can contact?

Can you also tell me who your direct supervisor is?

Regards
Jason Perkins

On 2023-03-22 09:15, Davis, Howard - DOT wrote:

Hi Jason,

During my inspection of the airport last summer, Mike Kaufman caught me and brought this proposal to my attention. His reasoning was to keep aircraft away from the bluff NE of the airfield.

I later met with Dave Fry as planned and mentioned Mike's proposal. I told him any change to the traffic pattern would need to come from him. I then passed along the necessary paperwork and suggested the proposed change be discussed locally before a decision is made. I also mentioned the State's recommendation is to use standard left traffic unless there is a valid reason to use right traffic. Any use of right traffic has the possibility of introducing safety issues. That said, it is not our place to necessarily question the validity of the reason for right traffic.

As Cathy mentioned, Dave submitted the required paperwork to change the traffic pattern some time later. I don't know what local conversations were had prior to submitting the change. If you have concerns with the change, I would suggest bringing them to the attention of the airport manager and airport committee.

Thanks,

Hal Davis, C.M. | Airport Compliance Manager Wisconsin Department of Transportation | Bureau of Aeronautics howard.davis@dot.wi.gov | 608-267-2142

-----Original Message-----

From: Terrell, Catherine (FAA) <Catherine.Terrell@faa.gov>
Sent: Wednesday, March 22, 2023 8:54 AM
To: jperkins@mwat.net; Davis, Howard - DOT <Howard.Davis@dot.wi.gov>
Subject: RE: Richland Airport

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Good morning, Hal and Jason.

This change (RWY 17 right traffic) came from the 93C airport manager, David Fry (tele 608-604-0398 or 608-647-3466).

Hope this helps.

Catherine (Cathy) Terrell
Federal Aviation Administration
Aeronautical Data, Sub-Team C, AJV-A313

Office: (405) 954-9937
email: catherine.terrell@faa.gov

-----Original Message-----

From: jperkins@mwt.net <jperkins@mwt.net>
Sent: Wednesday, March 22, 2023 8:30 AM
To: Howard.Davis@dot.WI.gov
Cc: Terrell, Catherine (FAA) <Catherine.Terrell@faa.gov>
Subject: Richland Airport

Hal,

I am based at Richland airport (93C) and noticed the proposed right traffic change to 17. I am curious on how this change was communicated that it was needed? A decision like this should have input from the local pilots.

We had a meeting at the airport recently and it was a surprise to the rest of the pilots. It does create some safety concerns with the grass runway, when someone is on base for runway 09.

Regards

Jason Perkins



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: RECOMMENDED STANDARD TRAFFIC PATTERNS AND PRACTICES FOR AERONAUTICAL OPERATIONS AT AIRPORTS WITHOUT OPERATING CONTROL TOWERS

**Date: 8/26/93
Initiated by: ATP-230**

AC No. 90-66A

1. PURPOSE.

This advisory circular (AC) calls attention to regulatory requirements and recommended procedures for aeronautical operations at airports without operating control towers. It recommends traffic patterns and operational procedures for aircraft, lighter than air, glider, parachute, rotorcraft, and ultralight vehicle operations where such use is not in conflict with existing procedures in effect at those airports.

2. CANCELLATION.

AC 90-66, Recommended Standard Traffic Patterns for Airplane Operations at Uncontrolled Airports, dated February 27, 1975, is cancelled.

3. PRINCIPAL CHANGES.

This AC has been updated to reflect current procedures at airports without operating control towers. Principal changes include: adding on "Other Traffic Pattern" section, amending appendix charts to remain consistent with the Airman's Information Manual (AIM), expanding the "Related Reading Material" section from "airplane" to "aeronautical" operations, adding definition and references to Common Traffic Advisory Frequency (CTAF), acknowledging straight-in approaches are not prohibited but may be operationally advantageous, and adding a paragraph on wake turbulence.

4. DEFINITIONS.

a. Airports Without Operating Control Towers. Airports without control towers or an airport with a control tower which is not operating. These airports are commonly referred to as non-towered, uncontrolled, or part-time towered airports.

b. Common Traffic Advisory Frequency (CTAF). A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a UNICOM, MULTICOM,

flight service station, or tower frequency and is identified in appropriate aeronautical publications.

5. RELATED READING MATERIAL.

- a. Airport/Facility Directory (AFD).
- b. Airman's Information Manual (AIM).
- c. Fly Neighborly Guide, Helicopter Association International.
- d. Aviation USA, Aircraft Owners and Pilots Association (AOPA).
- e. State aviation publications.
- f. Various pilot guides.
- g. Pilot Operations at Nontowered Airports, AOPA Air Safety Foundation pamphlet.
- h. Guidelines for the Operation of Ultralight Vehicles at Existing Airports, United States Ultralight Association.
- i. Facts for Pilots, United States Parachute Association.
- j. The latest addition of the following AC's also contain information applicable to operations at airports without operating control towers:
 - (1) AC 90-23, Aircraft Wake Turbulence.
 - (2) AC 90-42, Traffic Advisory Practices at Airports Without Operating Control Towers.
 - (3) AC 90-48, Pilot's Role in Collision Avoidance.
 - (4) AC 91-32, Safety In and Around Helicopters.
 - (5) AC 103-6, Ultralight Vehicle Operations-Airports, Air Traffic Control, and Weather.
 - (6) AC 105-2, Sport Parachute Jumping.

6. BACKGROUND AND SCOPE.

a. Regulatory provisions relating to traffic patterns are found in Parts 91, 93, and 97 of the Federal Aviation Regulations (FAR). The airport traffic

patterns contained in Part 93 relate primarily to those airports where there is a need for unique traffic pattern procedures not provided for in Part 91. Part 97 addresses instrument approach procedures. At airports without operating control towers, Part 91 requires only that pilots of airplanes approaching to land make all turns to the left unless light signals or visual markings indicate that turns should be made to the right.

b. The Federal Aviation Administration (FAA) believes that observance of a standard traffic pattern and the use of CTAF procedures as detailed in AC 90-42 will improve the safety and efficiency of aeronautical operations at airports without operating control towers.

7. GENERAL OPERATING PRACTICES.

a. Use of standard traffic patterns for all aircraft and CTAF procedures by radio-equipped aircraft are recommended at all airports without operating control towers. However, it is recognized that other traffic patterns may already be in common use at some airports or that special circumstances or conditions exist that may prevent use of the standard traffic pattern.

b. The use of any traffic pattern procedure does not alter the responsibility of each pilot to see and avoid other aircraft. Pilots are encouraged to participate in "Operation Lights On," which is a voluntary pilot safety program described in the AIM designed to enhance the "see-and-avoid" requirement.

c. As part of the preflight familiarization with all available information concerning a flight, each pilot should review all appropriate publications (AFD, AIM, Notices to Airmen (NOTAM), etc.), for pertinent information on current traffic patterns at the departure and arrival airports.

d. It is recommended that pilots utilize visual indicators, such as the segmented circle, wind direction indicator, landing direction indicator, and traffic pattern indicators which provide traffic pattern information.

e. The FAA encourages pilots to use the standard traffic pattern. However, for those pilots who choose to execute a straight-in approach, maneuvering for and execution of the approach should be completed so as not to disrupt the flow of arriving and departing traffic. Therefore, pilots operating in the traffic pattern should be alert at all times to aircraft executing straight-in approaches.

f. Pilots who wish to conduct instrument approaches should be particularly alert for other

aircraft in the pattern so as to avoid interrupting the flow of traffic. Position reports on the CTAF should include distance and direction from the airport, as well as the pilot's intentions upon completion of the approach.

g. Pilots of inbound nonradio-equipped aircraft should determine the runway in use prior to entering the traffic pattern by observing the landing direction indicator or by other means. Pilots should be aware that procedures at airports 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.

h. Wake turbulence is generated by all aircraft. Therefore, pilots should expect to encounter turbulence while operating in a traffic pattern and in proximity to other aircraft. Aircraft components and equipment can be damaged by wake turbulence. 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.

8. RECOMMENDED STANDARD TRAFFIC PATTERN.

Airport owners and operators, in coordination with the FAA, are responsible for establishing traffic patterns. However, the FAA encourages airport owners and operators 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. Appendix 1 contains diagrams for recommended standard traffic patterns.

a. Prior to entering the traffic pattern at an airport without an operating control tower, aircraft should avoid the flow of traffic until established on the entry leg. For example, wind and landing direction indicators can be checked while at an altitude above the traffic pattern. When the proper traffic pattern direction has been determined, the pilot should then proceed to a point well clear of the pattern before descending to the pattern altitude.

b. Arriving aircraft should be at the appropriate traffic pattern altitude before entering the traffic pattern. Entry to the downwind leg should be at a 45-degree angle abeam the midpoint of the runway.

c. It is recommended that airplanes observe a 1000-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. A pilot may vary the size of the traffic pattern depending on the aircraft's performance characteristics.

d. 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.

e. The base leg turn should commence when the aircraft is at a point approximately 45 degrees relative bearing from the runway threshold.

f. Landing and takeoff should be accomplished on the operating runway most nearly aligned into the wind. However, if a secondary runway is used, pilots using the secondary runway should avoid the flow of traffic to the runway most nearly aligned into the wind.

g. 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.

h. 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, with the pilot ensuring that the turn to downwind leg will be made at the traffic pattern altitude.

i. 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.

j. Airplanes should not be operated in the traffic pattern at an indicated airspeed of more than 200 knots (230 mph).

k. Throughout the traffic pattern, right-of-way rules apply as stated in FAR Part 91.113. 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.

9. OTHER TRAFFIC PATTERNS.

Airport operators routinely establish local procedures for the operation of gliders, parachutists, lighter than air aircraft, helicopters, and ultralight vehicles. Appendices 2 and 3 illustrate these operations as they relate to recommended standard traffic patterns.

a. Rotorcraft.

(1) In the case of a helicopter approaching to land, the pilot must avoid the flow of fixed-wing aircraft and land on a marked helipad or suitable clear area. Pilots should be aware that at some airports, the only suitable landing area is the runway.

(2) All pilots should be aware that rotorcraft may fly slower and approach at steeper angles than airplanes. Air taxi is the preferred method for helicopter ground movements which enables the pilot to proceed at an optimum airspeed, minimize downwash effect, and conserve fuel. However, flight over aircraft, vehicles, and personnel should be avoided.

(3) In the case of a gyrocopter approaching to land, the pilot should avoid the flow of fixed-wing aircraft until turning final for the active runway.

(4) A helicopter operating in the traffic pattern may fly a pattern similar to the airplane pattern at a lower altitude (500 AGL) and closer to the airport. This pattern may be on the opposite side of the runway with turns in the opposite direction if local policy permits.

(5) Both classes of rotorcraft can be expected to practice power-off landing (autorotation) which will involve a very steep angle of approach and high rate of descent (1,500-2,000 feet/minute).

b. Gliders.

(1) A glider, including the tow aircraft during towing operations, has the right-of-way over powered aircraft.

(2) If the same runway is used by both airplanes and gliders, the glider traffic pattern will be inside the pattern of engine driven aircraft. If a "Glider Operating Area" is established to one side of a powered-aircraft runway, the glider pattern will normally be on the side of the airport closest to the "Glider Operating Area." This will allow gliders to fly the same direction traffic pattern as powered aircraft in one wind condition and necessitate a separate opposing direction traffic

pattern in the opposite wind condition. (See examples in Appendix 2, Glider Operations).

(3) Typically, glider traffic patterns have entry points (initial points) from 600 to 1,000 feet AGL.

c. Ultralight Vehicles.

(1) In accordance with FAR Part 103, ultralight vehicles are required to yield the right-of-way to all aircraft.

(2) Ultralight vehicles should fly the rectangular pattern as described in Appendix 2. Pattern altitude should be 500 feet below and inside the standard pattern altitude established for the airport. An ultralight pattern with its own dedicated landing area will typically have a lower traffic pattern parallel to the standard pattern with turns in the opposite direction.

(3) All pilots should be aware that ultralights will fly significantly slower than airplanes. In addition, ultralights may also exhibit very steep takeoff and approach angles. Turns may be executed near the end of the runway in order to clear the area expediently.

d. Lighter Than Air Aircraft.

(1) A balloon has the right-of-way over any other category of aircraft and does not follow a standard traffic pattern.

(2) Due to limited maneuverability, airships do not normally fly a standard traffic pattern. However, if a standard traffic pattern is flown, it will be at an airspeed below most other aircraft.

e. Parachute Operations.

(1) All activities are normally conducted under a NOTAM noting the location, altitudes, and time or duration of jump operations. The Airport/Facility Directory lists airports where permanent drop zones are located.

(2) Jumpers normally exit the aircraft either above, or well upwind of, the airport and at altitudes well above traffic pattern altitude. Parachutes are normally deployed between 2,000 feet and 5,000 feet AGL and can be expected to be below 3,000 feet AGL within 2 miles of the airport.

(3) Pilots of jump aircraft are required by Part 105 to establish two-way radio communications with the air traffic control facility or Flight Service Station which has jurisdiction over the affected airspace prior to jump operations for the purpose of receiving information in the aircraft about known air traffic in the vicinity. In addition, when jump aircraft are operating at or in the vicinity of an airport, pilots are also encouraged to provide advisory information on the CTAF, i.e., "Chambersburg traffic, jumpers away over Chambersburg."

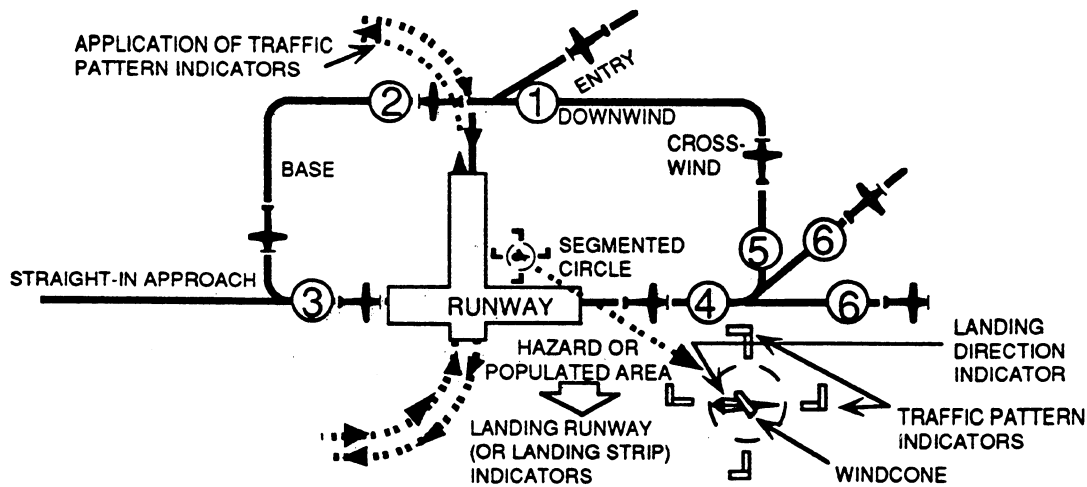
(4) When a drop zone has been established on an airport, parachutists are expected to land within the drop zone. At airports that have not established drop zones, parachutists should avoid landing on runways, taxiways, aprons, and their associated safety areas. Pilots and parachutists should both be aware of the limited flight performance of parachutes and take steps to avoid any potential conflicts between aircraft and parachute operations.

(5) Appendix 3 diagrams operations conducted by parachutists.

Harold W Becker

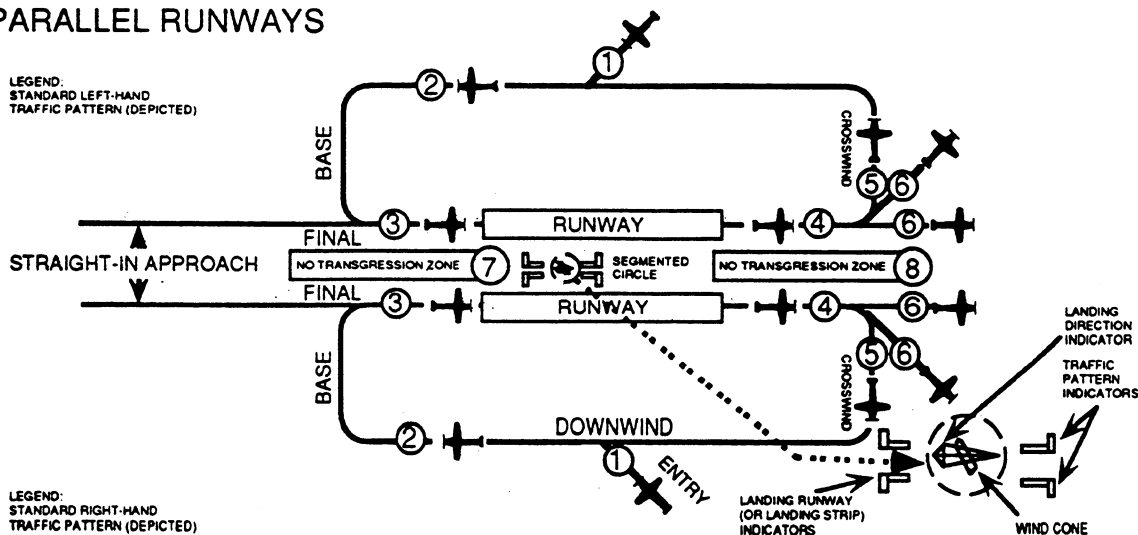
Harold W. Becker
Acting Director, Air Traffic
Rules and Procedures Service

SINGLE RUNWAY AIRPORT OPERATIONS



PARALLEL RUNWAYS

LEGEND:
STANDARD LEFT-HAND
TRAFFIC PATTERN (DEPICTED)

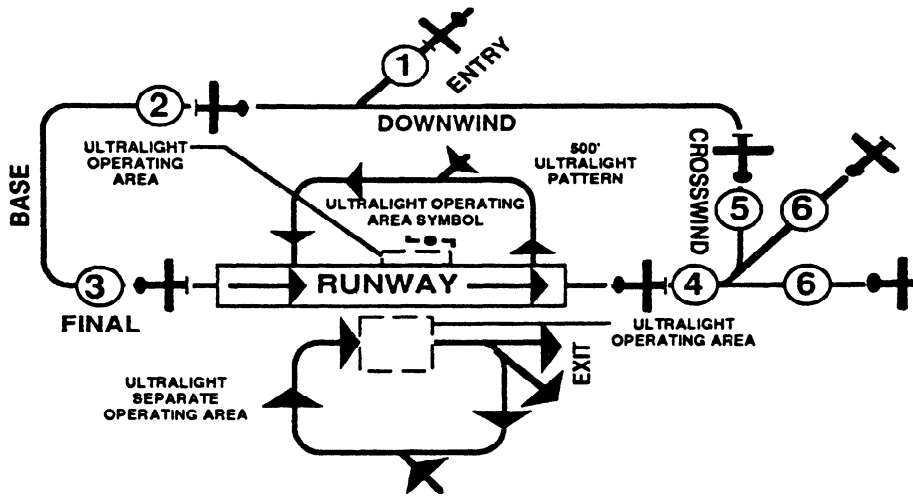


LEGEND:
STANDARD RIGHT-HAND
TRAFFIC PATTERN (DEPICTED)

KEY

- ① Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude. (1000' AGL is recommended pattern altitude unless established otherwise).
- ② Maintain pattern altitude until abeam approach end of the landing runway, or downwind leg.
- ③ Complete turn to final at least 1/4 mile from the runway.
- ④ Continue straight ahead until beyond departure end of runway.
- ⑤ If remaining in the traffic pattern, commence turn to crosswind leg beyond the departure end of the runway, within 300 feet of pattern altitude.
- ⑥ If departing the traffic pattern, continue straight out, or exit with a 45° left turn beyond the departure end of the runway, after reaching pattern altitude.
- ⑦ Do not overshoot final or continue on a track which will penetrate the final approach of the parallel runway.
- ⑧ Do not continue on a track which will penetrate the departure path of the parallel runway.

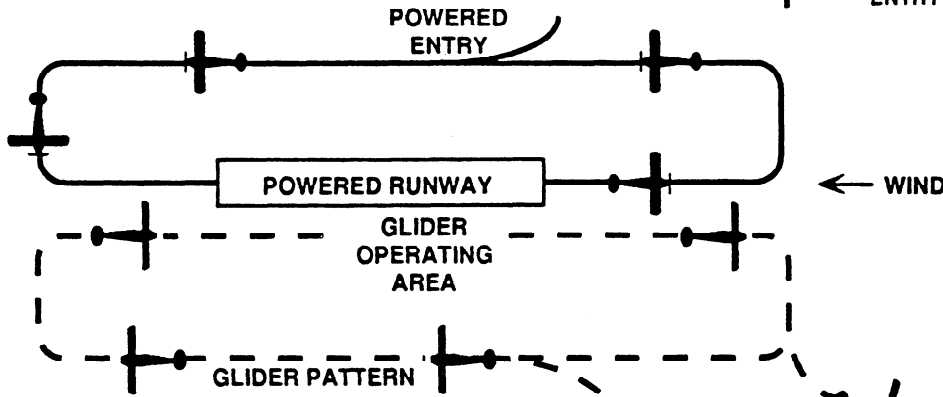
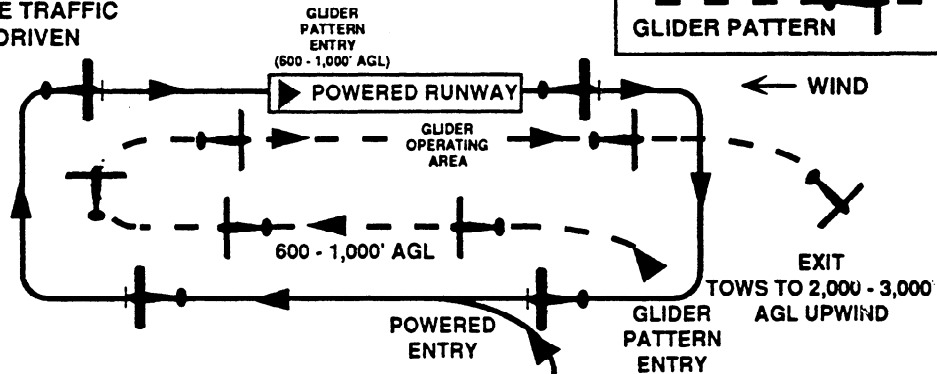
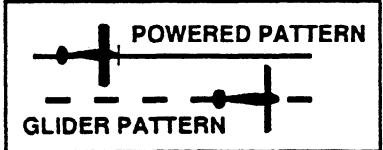
ULTRALIGHT OPERATIONS



GLIDER OPERATIONS

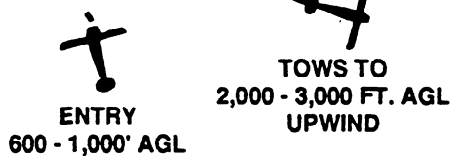
GLIDER PATTERN AND POWER PATTERN SAME SIDE OF RUNWAY

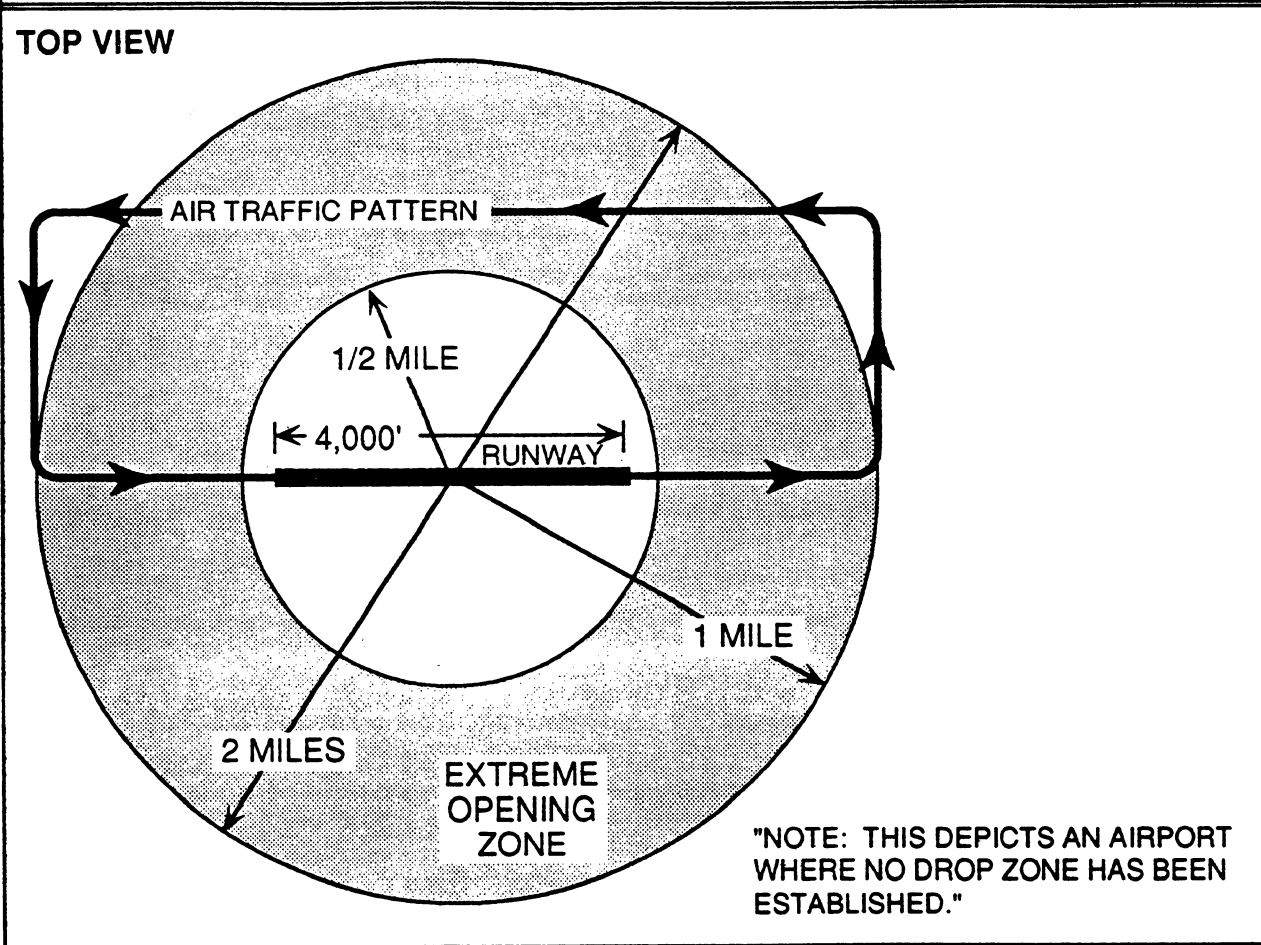
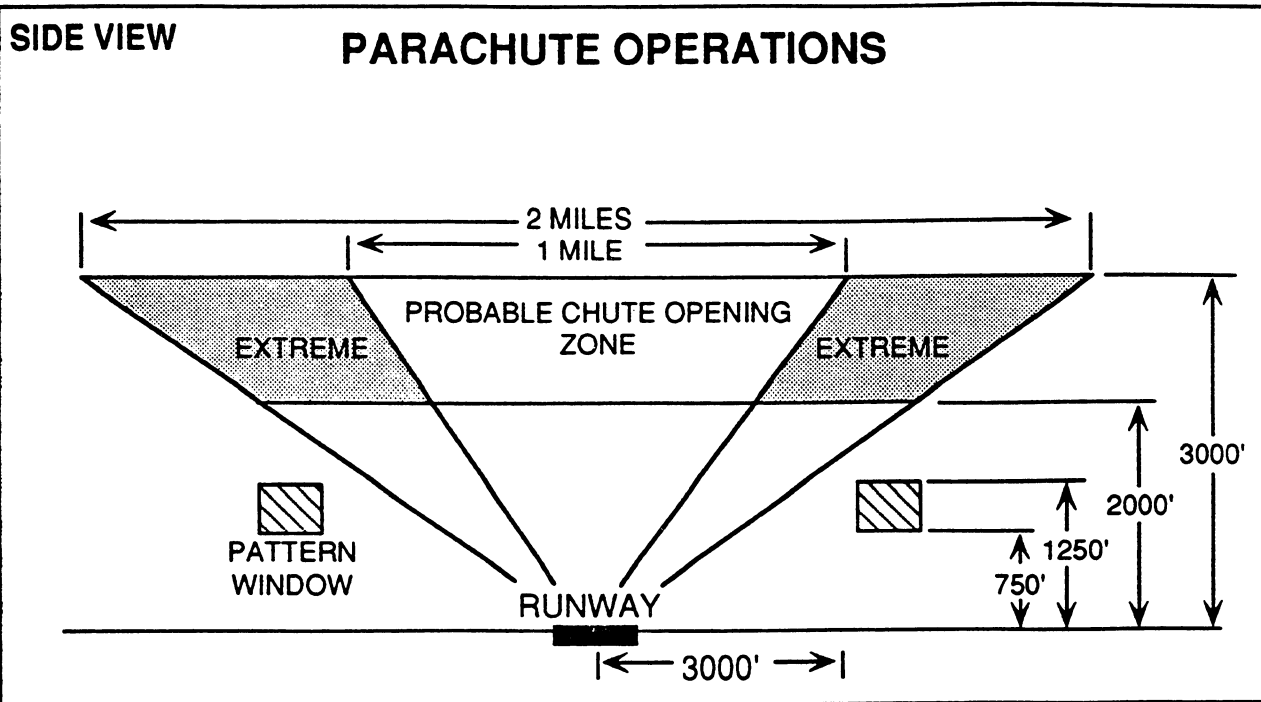
GLIDER PATTERN INSIDE TRAFFIC PATTERN FOR ENGINE-DRIVEN AIRCRAFT



GLIDER PATTERN AND POWER PATTERN OPPOSITE SIDE OF RUNWAY

GLIDER PATTERN IS SEPARATE FROM POWERED RUNWAY





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Displaying title 14, up to date as of 6/14/2023. Title 14 was last amended 6/13/2023.

Title 14 –Aeronautics and Space

Chapter I –Federal Aviation Administration, Department of Transportation

Subchapter F –Air Traffic and General Operating Rules

Part 91 –General Operating and Flight Rules

Subpart B –Flight Rules

General

§ 91.126 Operating on or in the vicinity of an airport in Class G airspace.

- (a) **General.** Unless otherwise authorized or required, each person operating an aircraft on or in the vicinity of an airport in a Class G airspace area must comply with the requirements of this section.
- (b) **Direction of turns.** When approaching to land at an airport without an operating control tower in Class G airspace—
 - (1) Each pilot of an airplane must make all turns of that airplane to the left unless the airport displays approved light signals or visual markings indicating that turns should be made to the right, in which case the pilot must make all turns to the right; and
 - (2) Each pilot of a helicopter or a powered parachute must avoid the flow of fixed-wing aircraft.
- (c) **Flap settings.** Except when necessary for training or certification, the pilot in command of a civil turbojet-powered aircraft must use, as a final flap setting, the minimum certificated landing flap setting set forth in the approved performance information in the Airplane Flight Manual for the applicable conditions. However, each pilot in command has the final authority and responsibility for the safe operation of the pilot's airplane, and may use a different flap setting for that airplane if the pilot determines that it is necessary in the interest of safety.
- (d) **Communications with control towers.** Unless otherwise authorized or required by ATC, no person may operate an aircraft to, from, through, or on an airport having an operational control tower unless two-way radio communications are maintained between that aircraft and the control tower. Communications must be established prior to 4 nautical miles from the airport, up to and including 2,500 feet AGL. However, if the aircraft radio fails in flight, the pilot in command may operate that aircraft and land if weather conditions are at or above basic VFR weather minimums, visual contact with the tower is maintained, and a clearance to land is received. If the aircraft radio fails while in flight under IFR, the pilot must comply with § 91.185.

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