Federal Aviation Administration – Regulations and Policies
Aviation Rulemaking Advisory Committee

Air Traffic Issue Area
Pilot Procedures at Non-Towered Airports Working Group

Task 1 – Update AC 90-66

Task Assignment

FILE COPY

Aviation Rulemaking Advisory Committee; Air Traffic Subcommittee; Pilot Procedures at Non-Towered Airports Working Group

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of establishment of Pilot Procedures at Non-Towered Airports Working Group.

SUMMARY: Notice is given of the establishment of a Pilot Procedures at Non-Towered Airports Working Group by the Air Traffic Subcommittee of the Aviation Rulemaking Advisory Committee. This notice informs the public of the activities of the Air Traffic Subcommittee of the Aviation Rulemaking Advisory Committee.

FOR FURTHER INFORMATION CONTACT: Mr. Aaron Boxer, Executive Director, Air Traffic Subcommittee, Air Traffic Rules and Procedures Service (ATP-230), 800 Independence Avenue, SW., Washington, DC 20591, Telephone: 202-267-8783; FAX: 202-267-5809.

SUPPLEMENTARY INFORMATION: The Federal Aviation Administration (FAA) established an Aviation Rulemaking Advisory Committee (56 FR 2190, January 22, 1991) which held its first meeting on May 23, 1991 (56 FR 20492, May 3, 1991). The Air Traffic Subcommittee was established at that meeting to provide advice and recommendations to the Director, Air Traffic Rules and Procedures Service, on air traffic operations rulemaking actions. At its meeting on September 30, 1991 (56 FR 46350, September 11, 1991), the subcommittee established the Pilot Procedures at Non-Towered Airports Working Group.

Specifically, the working group's task is the following:

Update Advisory Circular No. 90-66, Recommended Standard Traffic Patterns for Airplane Operations at Uncontrolled Airports, to reflect safe practices when entering and exiting same. In addition, expand the advisory circular to include operational information on ultralights, sailplanes, hang gliders, helicopters, and parachuting operations.

The Pilot Procedures at Non-Towered Airports Working Group will be comprised of experts from those organizations having an interest in the task assigned to it. A working group member need not necessarily be a representative of one of the organizations of the parent Air Traffic Subcommittee or of the full Aviation Rulemaking Advisory Committee. An individual who has expertise in the subject matter and wishes to become a member of the working group should write the person listed under the caption "**FOR FURTHER INFORMATION CONTACT**" expressing that desire and describing his or her interest in the task and the expertise he or she would bring to the working group. The request will be reviewed with the subcommittee chair and working group leader and the individual advised whether or not the request can be accommodated.

The Secretary of Transportation has determined that the formation and use of the Aviation Rulemaking Advisory Committee and its subcommittees are necessary in the public interest in connection with the performance of duties imposed on the FAA by law. Meetings of the full committee and any subcommittees will be open to the public except as authorized by section 10(d) of the Federal Advisory Committee Act. Meetings of the Pilot Procedures at Non-Towered Airports Working Group will be not be open to the public, except to the extent that individuals with an interest and expertise are selected to participate. No public announcement of working group meetings will be made.

Issued in Washington, DC, on October 22, 1991.

Aaron Boxer,

Executive Director, Air Traffic Subcommittee, Aviation Rulemaking Advisory Committee.

[FR Doc. 91-25852 Filed 10-25-91; 8:45 am]

BILLING CODE 4910-13-M

Recommendation Letter

NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS
Metro Plaza One • Suite 505 • 8401 Colesville Road • Silver Spring, MD 20910
(301) 588-0587 • FAX: (301) 588-1288

September 23, 1992

Chris Christie, Director
Office of Rulemaking, ARM-1
Federal Aviation Administration
800 Independence Avenue, SW

Washington, DC 20591

Dear Mr. Christie:

Enclosed is the final draft of Advisory Circular 90-66 "Recommended Standard Traffic Patterns and Practices for Aeronautical Operations at Airports Without Operating Control Towers," as approved by the Air Traffic Subcommittee of the Aviation Rulemaking Advisory Committee.

At the request of the Federal Aviation Administration, the Air Traffic Subcommittee assigned the task to a working group composed of representatives from several aviation associations and consumer groups. This document is the result of their deliberations and was approved by the subcommittee on August 10, 1992.

We appreciate the opportunity to be of service.

Respectfully,

Edward M. Scott

Edward M. Scott, Chairman
Air Traffic Subcommittee

Acknowledgement Letter

U.S. Department
of Transportation

**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

OCT 26 1992

Mr. Edward M. Scott, Chairman
Air Traffic Subcommittee
National Association of State
Aviation Officials
Silver Spring, MD 20910

Dear Mr. Scott:

This letter acknowledges receipt of your September 23 letter in which you transmitted draft Advisory Circular No. 90-66, Recommended Standard Traffic Patterns and Practices for Aeronautical Operations at Airports Without Operating Control Towers.

We will move as quickly as possible to complete the internal review and coordination process. We will then advise you of the date a notice of availability for public comment appears in the Federal Register.

I would like to thank your subcommittee, and particularly the Pilot Procedures at Non-Towered Airports working group, for its prompt action and efforts for completing the task assigned by the FAA.

Sincerely,

Anthony J. Broderick
Associate Administrator
for Regulation and Certification

Recommendation

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:
Initiated by: ATP-230

AC No: 90-66-A
Change:

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, dated February 27, 1975, is cancelled.

3. REFERENCES. The following AC's also contain information applicable to operations at airports without operating control towers.

a. AC 90-23, Aircraft Wake Turbulence.

b. AC 90-42, Traffic Advisory Practices at Airports Without Operating Control Towers.

c. AC 90-48, Pilot's Role in Collision Avoidance.

d. AC 91-32, Safety in and around Helicopters.

e. AC 103-6, Ultralight Vehicle Operations-Airports, Air Traffic Control, and Weather.

f. AC 105-2, Sport Parachute Jumping.

4. DEFINITIONS.

a. "Airports without Operating Control Towers" - means an airport without a control tower 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 designated frequency for the purpose of carrying out airport advisory practices while operating to or from an airport which does not have a control tower or an airport where the control tower is not operational. The CTAF is normally a UNICOM, MULTICOM, flight service station, or tower frequency. CTAF is identified in appropriate aeronautical publications.

5. RELATED READING MATERIAL.

a. Airport/Facility Directory.

b. Airman's Information Manual (AIM).

FAA Form 1320-15 (4-82) Supersedes WA Form 1320-2

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.

6. BACKGROUND AND SCOPE.

a. At the present time, regulatory provisions relating to traffic patterns are found in Parts 91, 93, and 97 of the Federal Aviation Regulations. 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 marking 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. This objective of increased safety can be realized through the education and communication of all users to the fullest extent possible.

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 which 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, and designed to enhance the "see-and-avoid" requirement.

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

d. It is recommended, when available, 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. Pilots using standard traffic patterns should be particularly alert for aircraft executing straight in approaches in both instrument meteorological conditions and visual meteorological conditions. Pilots may execute straight-in approaches provided maneuvering for and execution of the straight-in approach is completed so as not to disrupt the flow of arriving and departing traffic.

f. Pilots who wish to practice 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 pilots 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 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 co-ordination 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 a recommended standard traffic pattern.

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.

b. Arriving aircraft should be at the appropriate traffic pattern altitude before entering the standard traffic pattern and enter the downwind leg 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 performance characteristics of an aircraft.

d. The traffic pattern altitude should be maintained until the aircraft is abeam the approach end of the landing runway on downwind leg.

e. The base leg turn should be made at approximately a 45 degree angle to the runway threshold or when a gradual descent to the runway can be effected.

f. Landing and takeoff should be accomplished on the operating runway most nearly aligned into the wind. However, if another runway is used, pilots using such other runways 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.

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 91.113.

9. OTHER TRAFFIC PATTERNS. Airport operators routinely establish local procedures for the operation of gliders, parachutists, lighter than air aircraft, helicopters, and ultralight vehicles. Appendix 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 to a marked helipad or suitable clear area.

(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 must 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 (1500-2000 ft/min).

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

(3) Typically, glider traffic patterns have entry points, (initial points), 600-1000 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) Many ultralights may exhibit very steep takeoff and approach angles executing turns near the ends 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 will not follow a standard traffic pattern.

(2) Due to limited maneuverability, airships will not normally fly a standard traffic pattern, though they may on occasion at reduced airspeeds.

e. PARACHUTE OPERATIONS

(1) Parachuting has been determined by the FAA to be a legitimate aeronautical activity. 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 within 2 miles of the airport when below 3,000 feet AGL.

(3) Pilots of jump aircraft are required by Part 105 to establish two-way radio communications with the air traffic control facility which has jurisdiction of the affected airspace prior to jump operations. Jump pilots are also encouraged to provide advisory information on the CTAF, i.e., "Chambersburg traffic, jumpers away over Chambersburg."

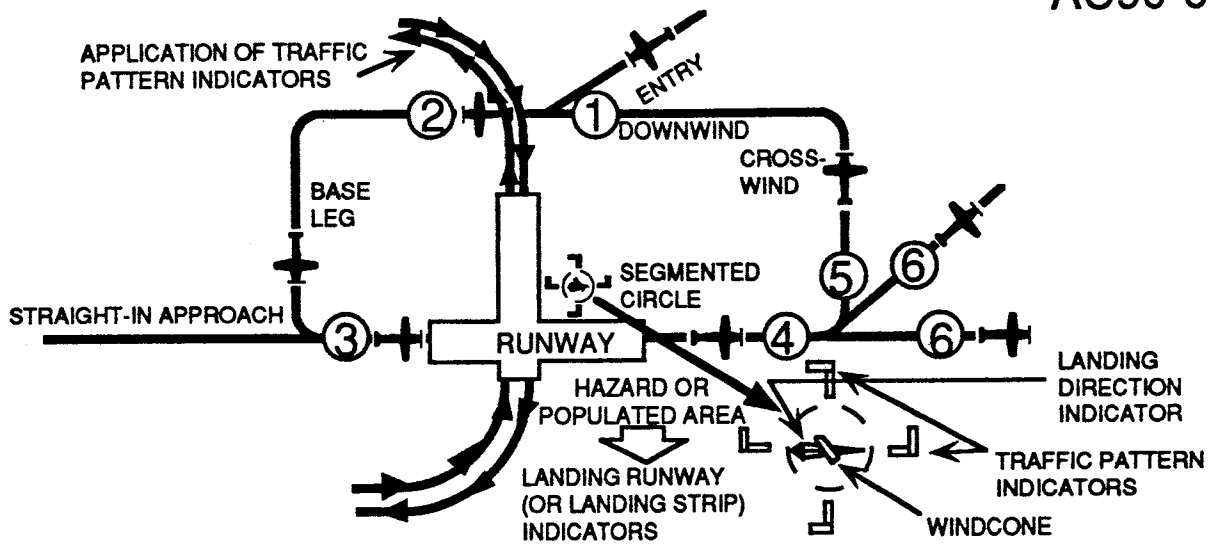
(4) Parachutists maneuver to avoid landing on active runways. Because parachutes have limited flight performance, aircraft should maneuver to avoid any potential conflicts in either the airspace or runway environment.

(5) Appendix 3 diagrams operations conducted by parachutists.

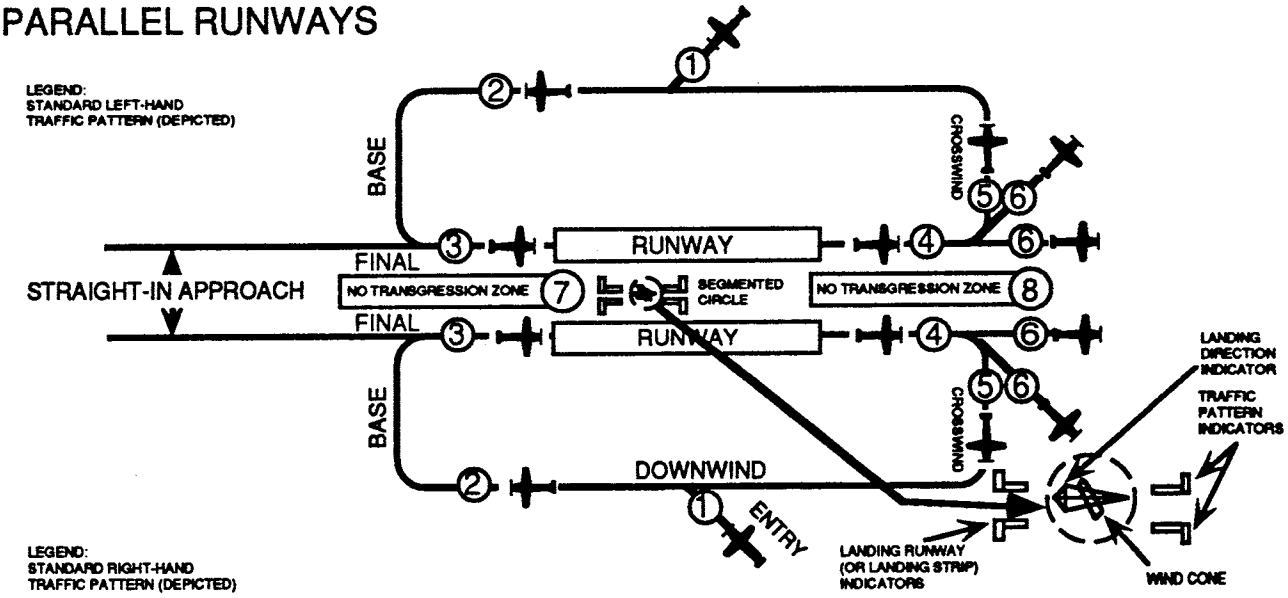
10. HOW TO GET THIS PUBLICATION. Order additional copies of this advisory circular from the Department of Transportation, Publications Section, TAD-443.1, Washington, D. C., 20590.

AIRPORT OPERATIONS

SINGLE RUNWAY



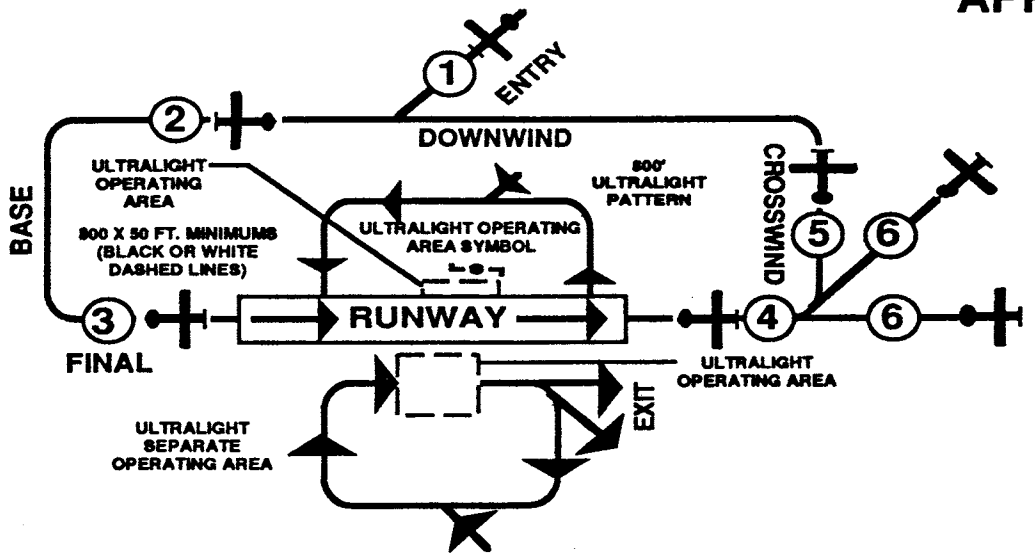
PARALLEL RUNWAYS



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 45º 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.

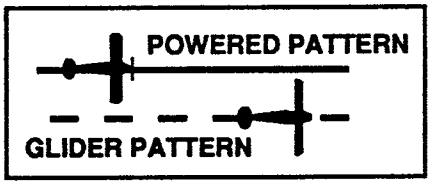
ULTRALIGHT OPERATIONS

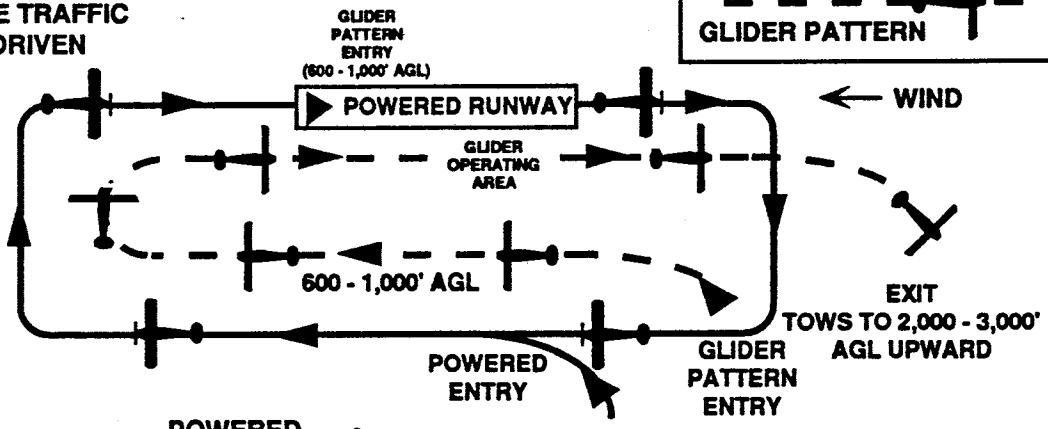


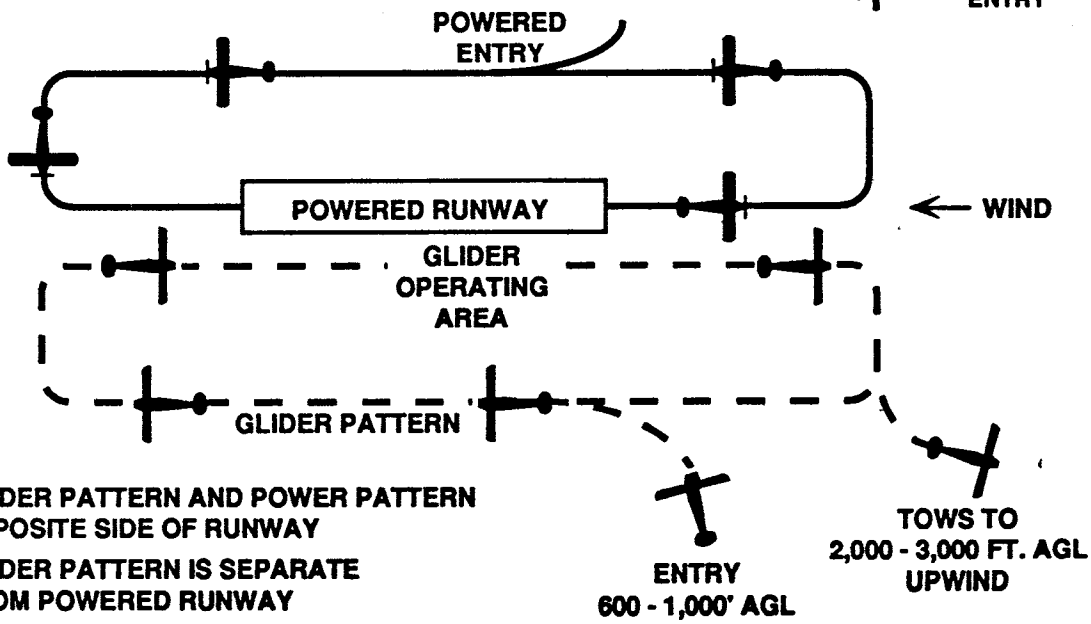
GLIDER OPERATIONS

GLIDER PATTERN AND POWER PATTERN SAME SIDE OF RUNWAY

GLIDER PATTERN INSIDE TRAFFIC PATTERN FOR ENGINE-DRIVEN AIRCRAFT





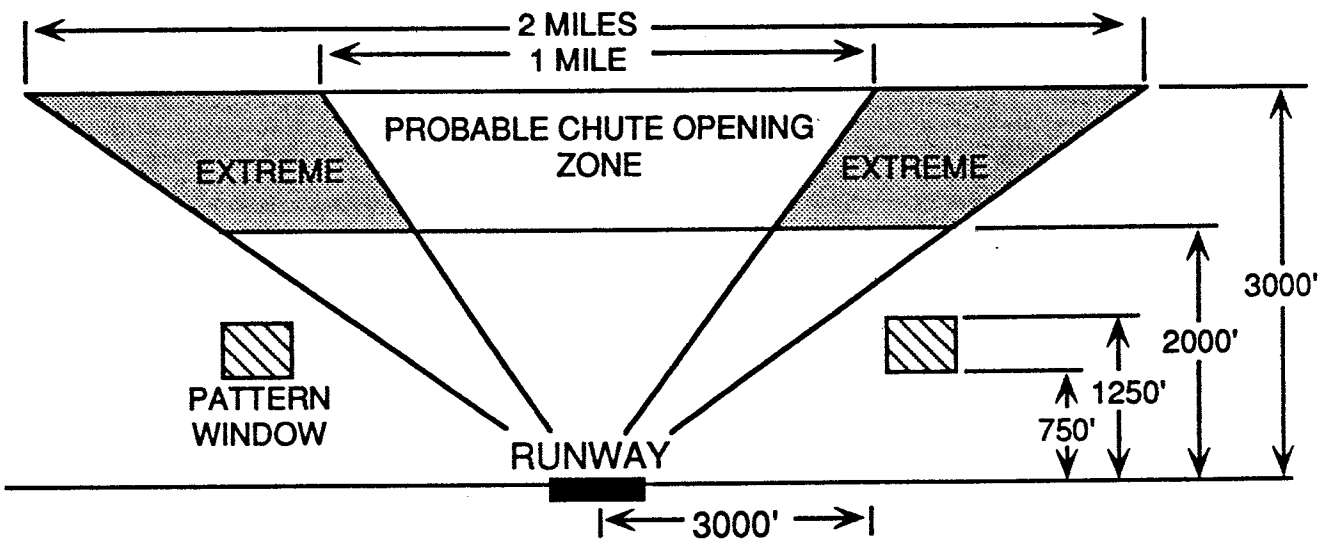


GLIDER PATTERN AND POWER PATTERN OPPOSITE SIDE OF RUNWAY

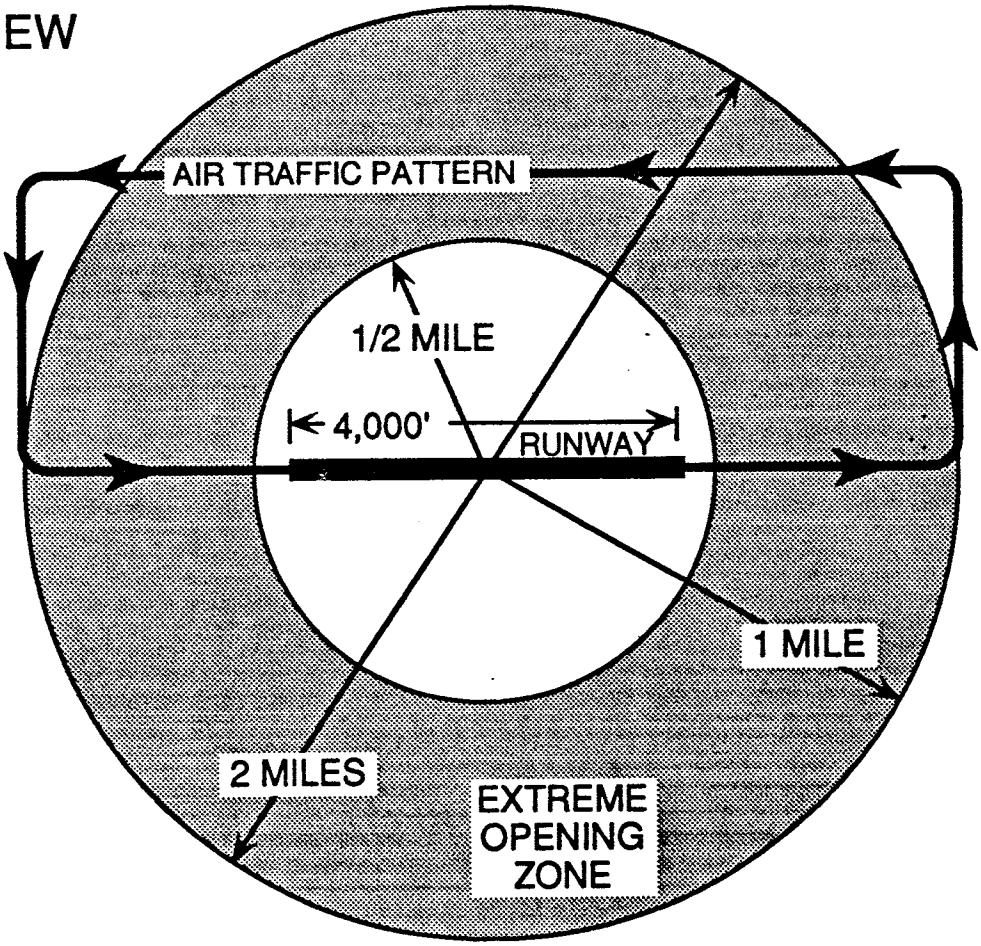
GLIDER PATTERN IS SEPARATE FROM POWERED RUNWAY

PARACHUTE OPERATIONS

SIDE VIEW



TOP VIEW



FAA Action

Federal Aviation Administration

Recommended Traffic Patterns and Practices for Aeronautical Operations at Airports Without Operating Control Towers

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of availability.

SUMMARY: The Federal Aviation Administration (FAA) announces the availability of Advisory Circular (AC) No. 90–66A. This AC provides recommended traffic pattern procedures and practices at airports without operating control towers for aircraft, lighter than air, glider, parachute, rotorcraft, and ultralight vehicle operations.

EFFECTIVE DATE: August 26, 1993.

ADDRESSES: A copy of AC No. 90–66A, Recommended Traffic Patterns and Practices for Aeronautical Operations at Airports without Operating Control Towers, may be obtained by sending a written request with a self-addressed mailing label to: Department of Transportation, Utilization and Storage Section, M–443.2, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Ellen Crum, Air Traffic Rules Branch, ATP–230, Airspace Rules and Aeronautical Information Division, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; telephone (202) 267–8783.

SUPPLEMENTARY INFORMATION: AC No. 90–66A supersedes AC No. 90–66, Recommended Standard Traffic Patterns for Airplane Operations at Uncontrolled Airports, dated February 27, 1975.

Issued in Washington, DC on September 23, 1993.

Harold W. Becker,

Manager, Airspace—Rules and Aeronautical Information Division.

[FR Doc. 93–24153 Filed 9–30–93; 8:45 am]

BILLING CODE 4910–13–M