

AC NO: AC 150/5340-23A

DATE: June 24, 1975



ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

SUBJECT: SUPPLEMENTAL WIND CONES

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1. **PURPOSE.** This advisory circular describes criteria for the location and performance of supplemental wind cones.
 2. **CANCELLATION.** Advisory Circular 150/5340-23, Guide for Location of Supplemental Wind Cones, dated August 24, 1971, is canceled.
 3. **REFERENCES.** Advisory Circular (AC) 00-2, Advisory Circular Checklist and Status of Federal Aviation Regulations, updated triannually, contains the listing of all current issuances of advisory circulars and changes thereto. It explains the circular numbering system and gives instructions for ordering advisory circulars that are for sale as well as those distributed free of charge. AC 00-2 also gives instructions for ordering the Federal Aviation Regulations.
 - a. The following free advisory circulars may be obtained from the Department of Transportation, Subsequent Distribution Section, M-494.3, Washington, D.C. 20590:
 - (1) Advisory Circular 00-2, Federal Register, Advisory Circular Checklist and Status of Regulations.
 - (2) AC 00-44, Status of the Federal Aviation Regulations.
 - (3) Advisory Circular 150/5345-27, Specification for L-807 Eight-Foot and Twelve-Foot Unlighted or Externally Lighted Wind Cone Assemblies.
 - b. The following Federal Aviation Regulations (FAR) may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402:
 - (1) FAR, Part 77, Objects Affecting Navigable Airspace.
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Initiated by: AAS-550

(2) FAR, Part 139, Certification and Operations: Land Airports
Serving CAB-Certificated Air Carriers.

4. EXPLANATION OF REVISIONS. This advisory circular has been revised to allow for the installation of wind cones that do not conform to the requirements of Advisory Circular 150/5345-27, to enlarge the area in which the supplemental wind cone should be located, and to delete installation detail.
5. BACKGROUND.
 - a. Often there is a need for the installation of supplemental wind cones near the approach end or touchdown zone area of a runway in order to provide the pilot a continuing visual indication of wind conditions during landing and takeoff. The extra wind cone installations supplement the standard wind cone installation requirements contained in Advisory Circular 150/5345-27 and FAR 139.53.
 - b. At many locations, the source of the wind data reported to the pilot may be up to 2 or 3 miles from the approach end of the runway. At these locations, extra wind cones may be needed to provide wind information near the runway threshold or touchdown zone area during landing and takeoff. In addition, supplemental wind cones may provide important transient wind conditions during changeable situations such as approaching thunderstorms, weather fronts, or at airports where the topography could cause adverse wind conditions.
6. LOCATIONS.
 - a. Install the supplemental wind cone in an area at least 150 feet from the runway edge within reasonable proximity to the runway end and which affords maximum visibility to pilots in the air and on the ground. See Figure 1 for suggested area for installation. If there are FAA facilities on the airport, coordinate with the responsible Airway Facilities Division to insure that the proposed wind cone location is not in an ILS critical area and the proposed wind cone will not cause interference with the radiation pattern of any navigational aid facility.
 - b. The preferred location of the supplemental wind cone is near the left side of the runway when viewed by an approaching pilot; however, the supplemental wind cone may be located on the right side of the runway where conditions such as another runway, a taxiway, an apron, water, navigational aid, etc., make installation on the left side of the runway undesirable. See Figure 1 for preferred location.
7. EQUIPMENT PERFORMANCE CHARACTERISTICS. Supplemental wind cone installations may utilize commercially available wind cones in lieu of equipment specified in AC 150/5345-27.

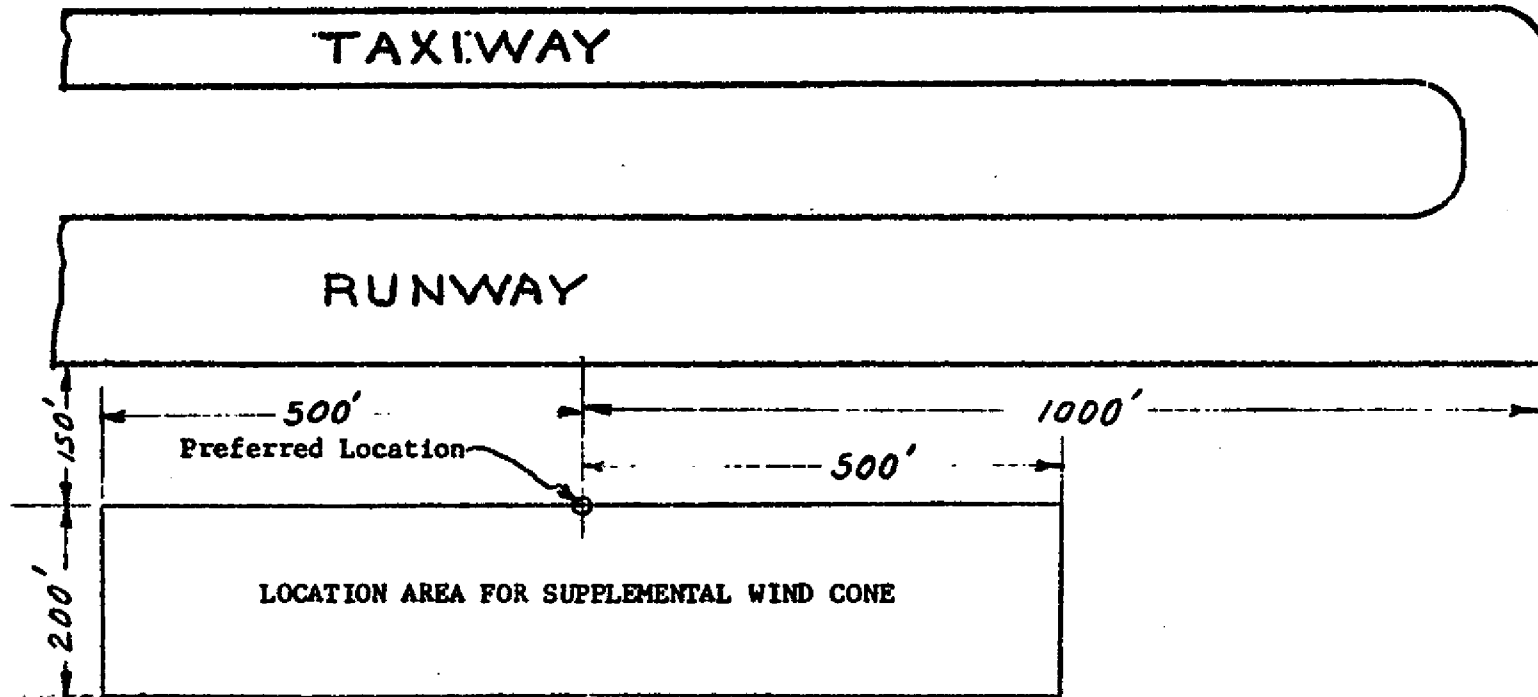


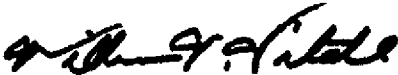
FIGURE 1. LOCATION OF SUPPLEMENTAL WIND CONE

- a. The supplemental wind cone should be clearly visible for at least 1/2 mile under conditions of 3 miles minimum visibility in rain, snow, haze, smoke, etc., during daylight hours and at night if illuminated.
- b. The wind cone should move freely about the supporting shaft and indicate the true wind direction (at the wind indicator site) within ± 5 degrees at a wind velocity of 5 miles per hour.
- c. The cone should be made of any durable fabric or material that will not deteriorate under general conditions of use for a period of six months, that will not fade or dissolve under exposure to the elements nor decompose under normal storage conditions, and that will be water resistant.
- d. The wind cone should be in the form of a truncated cone with a throat diameter not less than 18 inches and a length of not less than 5 feet nor more than 9 feet.
- e. The wind cone frame, if used, should be free-turning, be easily mounted on a 1-inch pipe, have a throat size applicable to the wind cone, and be easily serviceable without special equipment or tools.

8. INSTALLATION.

- a. As supplemental wind cones are not considered to be meteorological devices, the exception provided by FAR 77.15 does not apply. Therefore, before installation of wind cones, siting must be evaluated by the FAA. (See paragraph 9.)
- b. The wind cone should be sited as described in paragraph 6b.
- c. The wind cone support structure should be designed to support the wind cone at wind speeds up to 50 m.p.h., yet be lightweight and cause minimal damage when struck by any aircraft.
- d. The overall height of the wind cone and supporting structure should not exceed 10 feet above the site level.
- e. The ground in about a 20-foot-diameter circle around the supplemental wind cone should be treated to prevent the growth of vegetation, and to provide good contrast with the surrounding ground for rapid identification of the wind cone.
- f. The supplemental wind cone need not be lighted, but it is highly recommended if the runway is lighted. Lighting may be either internal or external to the wind cone.

- g. The supporting structure may be fabricated on the site, and the wind cone and wind cone frame may be purchased off-the-shelf. The support and base should be painted international orange to make them more conspicuous.
- h. Power for lighting may be taken from the runway perimeter lighting circuit through a series-to-multiple transformer, if the constant current regulator has capacity for the added load.
- 9. REPORTING REQUIREMENTS. A supplemental wind cone is not considered to be a landing aid or meteorological device; therefore, notice of proposed construction must be filed in accordance with FAR 77.13.
- 10. MAINTENANCE. Perform regular maintenance checks and replace defective components when the equipment fails to perform in accordance with the requirements of paragraph 7.
- 11. HOW TO OBTAIN ADDITIONAL COPIES OF THIS PUBLICATION. Additional copies of Advisory Circular 150/5340-23A, Supplemental Wind Cones, may be obtained free of charge from the Department of Transportation, Subsequent Distribution Section, M-494.3, Washington, D.C. 20590.



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