

Federal Aviation Agency



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AC NO: 150/5340-1A CH 1

AIRPORTS

EFFECTIVE:
9/15/66

SUBJECT : MARKING OF SERVICEABLE RUNWAYS AND TAXIWAYS

1. **PURPOSE.** This advisory circular change transmits page changes to the subject advisory circular. This change covers the provision of an aiming point for turbojet landings on other than all-weather marked runways.

2. **EXPLANATION OF CHANGES.**

a. Page 5, paragraph 8c. New paragraph 8c added.

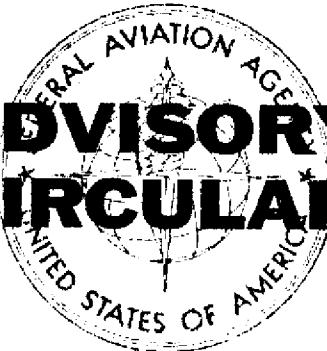
b. Page 6, paragraph 10. In the fifth line, Printing Branch has been changed to Distribution Unit.

3. **PAGE CONTROL CHART.**

Remove Page	Dated	Insert Page	Dated
5	6/30/66	5	9/15/66
6	6/30/66	6	9/15/66

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AC NO: AC 150/5340-1A

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EFFECTIVE:

6/30/66

SUBJECT: MARKING OF SERVICEABLE RUNWAYS AND TAXIWAYS

1. **PURPOSE.** This advisory circular sets forth standards and practices for the guidance of the public in marking and remarking serviceable runways and taxiways. The use of this standard is required for project activity under the Federal-aid Airport Program.
2. **CANCELLATION.** AC 150/5340-1, Marking of Serviceable Runways and Taxiways, dated November 6, 1963, is cancelled.
3. **REFERENCE.** AC 150/5340-7, Marking of Deceptive, Closed, and Hazardous Areas on Airports, dated August 1, 1963.
4. **EXPLANATION OF REVISION.** The reference to retroreflective material is deleted.
5. **APPLICATION.** The standards and practices contained herein apply whenever serviceable runways and taxiways are to be marked or remarked. The standards recognize degrees of marking requirements dependent upon meteorological minima, availability of electronic aids, and other factors associated with the use of the runway. The runway marking system is divided into three phases of markings taking into account the severity of operating conditions and cost factors of installation and maintenance.
6. **GENERAL REQUIREMENTS.** In the interest of safety, regularity, or efficiency of aircraft operations, the following requirements should be applied.
 - a. **Runway Marking Requirements.** Runway markings, divided into three phases with minimum elements specified for each phase, should be in accordance with the requirements set forth below. Configurations complying with the standards are detailed in Figures 1 and 2 (see also paragraph 8).

- (1) Basic Runway Marking. Markings on runways used for operations under Visual Flight Rules should be:
 - (a) Centerline marking and runway direction numbers (and letters if required).
 - (b) The additional elements of the instrument runway and all-weather runway marking patterns outlined below may be added.
- (2) Instrument Runway Marking. Markings on runways served by a nonvisual navigation aid intended for landings under instrument weather conditions should be:
 - (a) Basic runway marking plus threshold marking.
 - (b) The additional elements of the all-weather runway marking pattern outlined below may be added.
- (3) All-Weather Runway Marking. Markings on runways served by nonvisual precision approach aids and on runways having special operational requirements should be:
 - (a) Instrument runway marking.
 - (b) Landing zone markings.
 - (c) Side stripes.

b. Precedence of Runway Markings. At intersection of runways, the runway markings of highest precedence should be displayed and the other runway markings should be interrupted. The following is the order of precedence:

- (1) All-weather runway marking.
- (2) Instrument runway marking.
- (3) Basic runway marking. *

c. Runway Centerline Marking. The runway centerline marking should be a broken line with 120-foot dashes and 80-foot blank spaces. The minimum width of the basic runway centerline marking should be 1 foot. The minimum width of the instrument runway centerline marking and the all-weather runway centerline marking should be 3 feet.

d. Runway Direction Number. Each runway end should be designated by numbers assigned and by letters where required. Numbers and letters assigned should be determined from the approach direction and conform to the form and dimensions shown in Figure 1. The number assigned should be the whole number nearest one-tenth the magnetic azimuth of the centerline of the runway measured clockwise from the magnetic north. Single digits should not be preceded by a zero.

(1) Parallel Runways. The letter or letters, where required, to differentiate between parallel runways should be, as follows, in the order shown from left to right:

(a) For two parallel runways "L" "R".

(b) For three parallel runways "L" "C" "R".

(2) Intersection of Runway Ends. Where runway ends have a common intersection, preference in locating the marking should be given the most important runway.

(3) VFR Runways. A proportional reduction of the size and transverse spacing of numbers (shown in Figure 1) up to 50 percent for runway designation markers may be used for VFR airport runways which are less than 75 feet in width.

e. Threshold Marking. The threshold marking, with outer dimensions of 150 by 130 feet, should consist of 8 stripes, each 12 feet wide and 150 feet long. The stripes should be separated by spaces 3 feet wide except that the center space should be 16 feet. The threshold marking dimensions should remain constant for all runways of 150 feet or greater width. For a runway less than 150 feet wide, the length of the threshold marking should remain at 150 feet, but the overall width of the marking should be the runway width less 20 feet, and the width of the stripes and the distance between the stripes should be reduced proportionally to the reduction in overall width of the threshold marking. For a runway more than 150 feet wide, additional threshold marking stripes may be added in accordance with the space available. Where side stripes are present, the first additional runway threshold stripe should be 5 feet inboard of the side stripe with additional stripes separated by 3-foot spaces.

f. Side Stripes. Side stripes should be continuous lines having a minimum width of 3 feet. For runways of 150 feet or greater width, the distance between stripes measured at the inside edge should be constant at 140 feet. For runways less than 150 feet wide, side stripes should have the maximum available distance between inside edges. Runways of 150 feet width or less, having adequate visual contrast of the runway edge, may not need side striping.

- g. Landing Zone Markings. When used, landing zone markings should be placed at each 500-foot section of a 2000-foot landing zone at each end of the runway as shown in Figure 1.
- h. Taxiway Marking Requirements. Taxiway markings should be in accordance with the requirements set forth below and as shown in Figure 1.
 - (1) Longitudinal Stripes. Each taxiway should be marked by a single continuous stripe along the centerline. The stripes should have a minimum width of 6 inches.
 - (a) At taxiway intersections with runway ends, taxiway stripes should terminate in line with the nearest edge of the runway.
 - (b) At intersections of taxiways with runway, where the taxiway may serve as a normal exit from the runway, except as provided in paragraph 6h(1)(a), the centerline marking should be curved into the runway centerline marking as shown in Figure 1. This marking may be extended parallel to the runway centerline marking for a distance of 200 feet beyond the point of tangency. The curve of this taxiway turnoff should be drawn tangent to a line parallel to and 3 feet from the near side of the runway centerline marking and tangent to the taxiway centerline. The curve should have the largest radius of curvature which will retain a clearance to the taxiway or runway edge of not less than one-half the width of the taxiway.
 - (c) When a taxiway crosses a runway, the taxiway centerline marking should continue across the runway but should be interrupted for the runway markings.
 - (d) At taxiway intersections the taxiway centerline markings should intersect.
 - (2) Taxiway Holding Line Marking. A taxiway holding line marking should be placed a distance of not less than 100 feet and not more than 200 feet from the nearest edge of the runway or taxiway which the taxiway intersects. This distance should be measured on a line perpendicular to the centerline of the runway or taxiway which is intersected. The distance should be increased from the minimum 100 feet as necessary to provide adequate clearance between larger aircraft operating on the

runway or taxiway and the holding aircraft. When the taxiway is associated with a warmup pad, the marking may be parallel to the centerline of the runway or taxiway which is intersected. Details of the taxiway holding line marking should be as shown in Figure 1.

7. DETAIL REQUIREMENTS.

- a. The color of markings should be:
 - (1) White for all runway markings.
 - (2) Yellow for all taxiway markings.
- b. On runway surfaces of light color, runway markings may be outlined in black to increase their conspicuity.

8. SPECIAL REQUIREMENTS.

- a. Marking of Displaced Thresholds. The marking of displaced thresholds should be as illustrated in Figure 2.
- b. Markers and Marking for Snow-Covered Runways. Markers and markings should be used to indicate the usable limits of snow-covered runways. Markers should be placed along the sides of the usable portion of snow-covered runways, spaced at intervals of not more than 330 feet, and should be located symmetrically about the axis of the runway. Sufficient markers should be placed to indicate the runway thresholds.
 - (1) Characteristics. Markers on snow-covered runways should consist of conspicuous objects such as spruce trees about 5 feet high, set upright, or light wooden tripods.
 - (2) Markings. Runways covered with snow and to be used while so covered should be marked (for example, with dyes) with centerline marking, threshold marking, and side marking when required. Details specified for regular marking may be varied to accomplish the purpose intended.
- * c. Aiming Marker for Turbojet Operations. To provide an aiming point for landing by turbojet pilots on other than all-weather marked runways, marking similar to the 1000-foot landing zone marker of the all-weather pattern should be provided 1000 feet from the threshold. This marking should consist of 3 stripes, 75 feet long on each side of the runway centerline. For runways other than 150 feet wide, the stripe widths and the spacing between stripes should be proportionately increased or decreased (but to not less than 2 feet wide) in a proportionate relation to the existing runway width. *

9. DEFINITIONS. With respect to this standard, the following definitions apply:

- a. Threshold. The line established by competent authority perpendicular to the runway centerline designating the beginning of that portion of a runway usable for landing.
- b. Displaced Threshold. A threshold that is not at the beginning of the runway pavement.

10. HOW TO GET THIS PUBLICATION AND THE REFERENCED CIRCULAR. Obtain additional copies of this circular, AC 150/5340-1A CH 1, Marking of Serviceable Runways and Taxiways, and the referenced circular, AC 150/5340-7, Marking of Deceptive, Closed, and Hazardous Areas on Airports, from the Federal Aviation Agency, Distribution Unit, HQ-438, * Washington, D.C. 20553.

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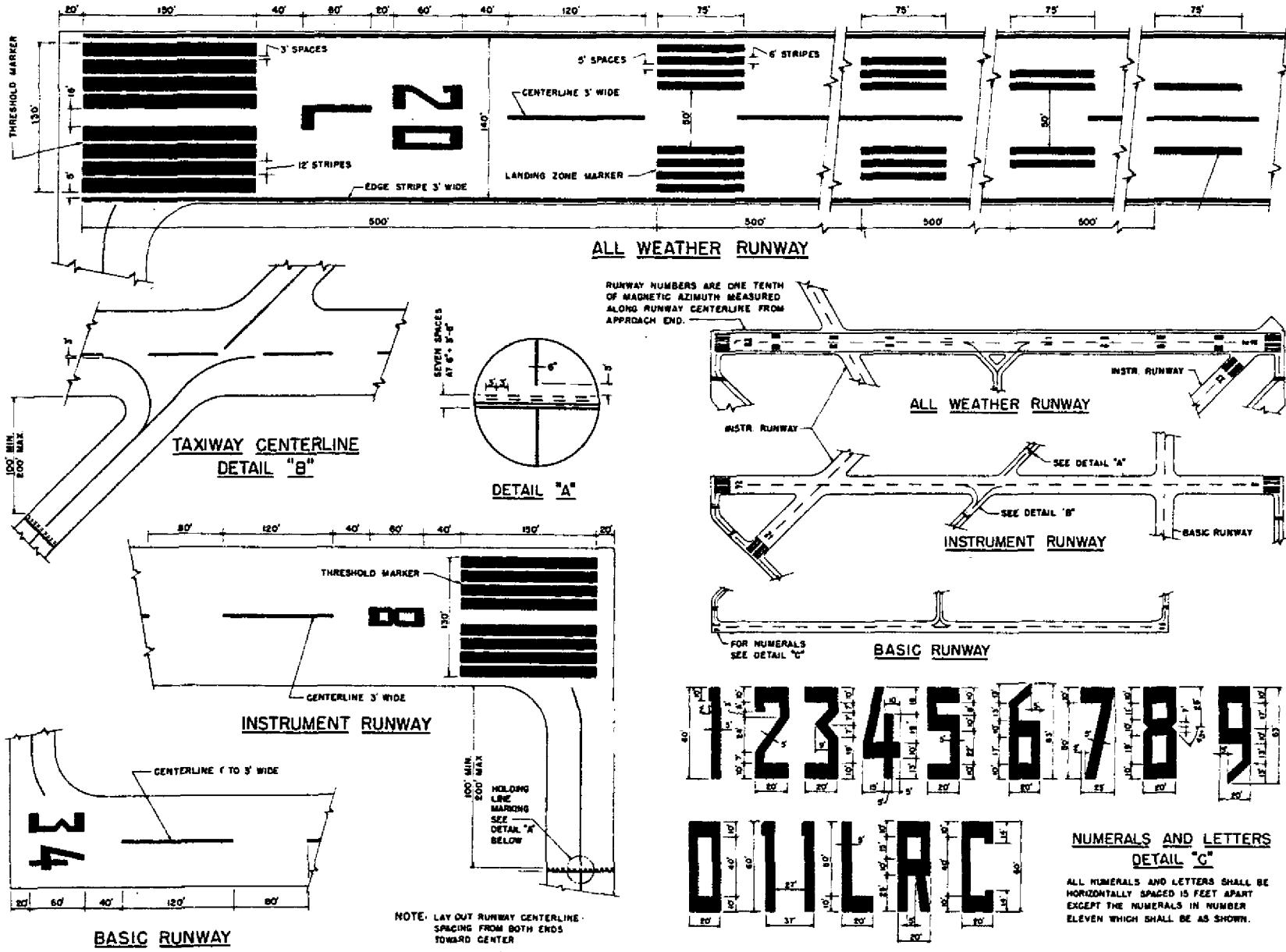
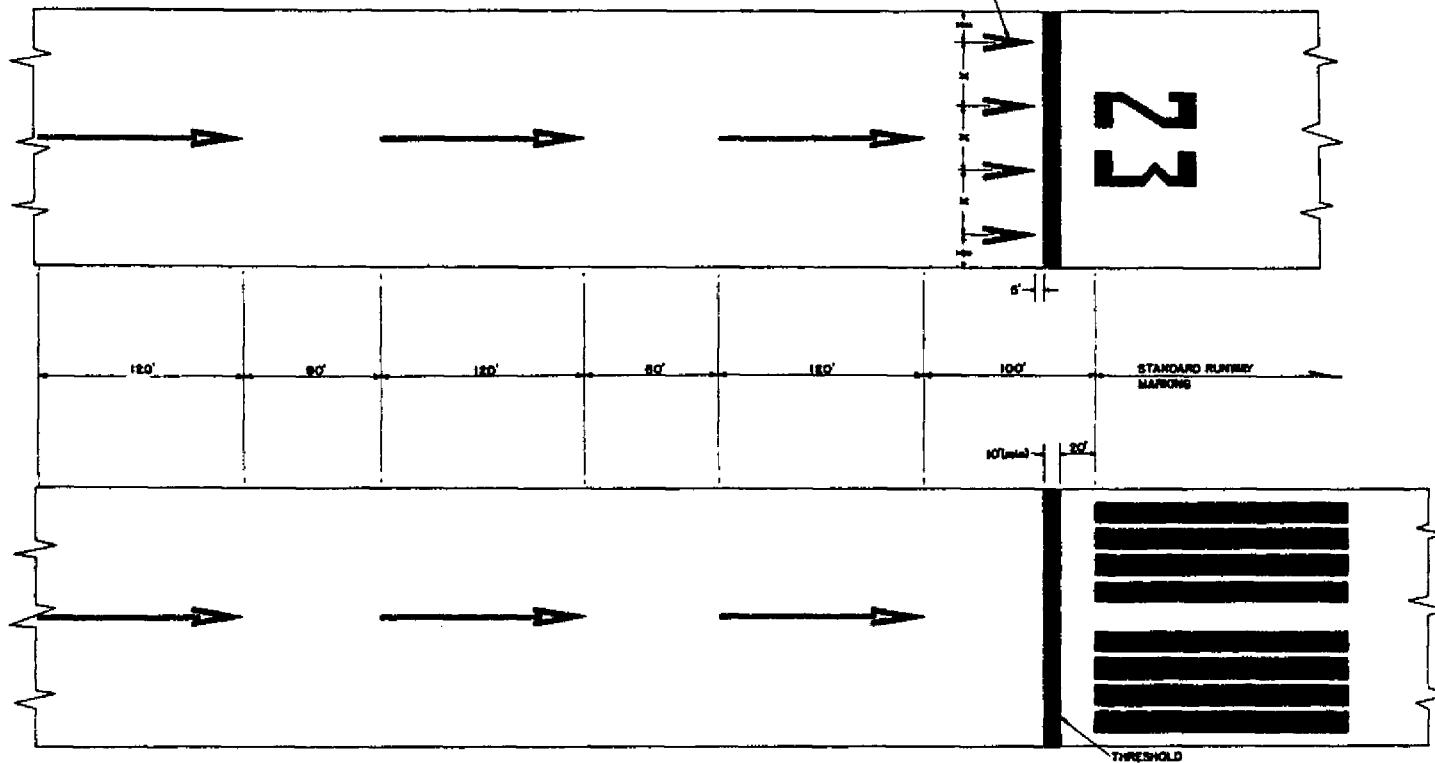


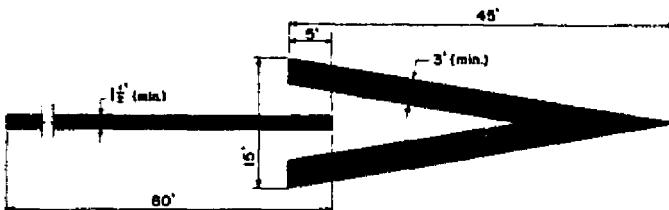
FIGURE 1. RUNWAY AND TAXIWAY MARKING

BASIC RUNWAY

FOUR CHEVRONS PLACED SYMMETRICALLY
ABOUT CENTERLINE WITH UNIFORM LATERAL
SPACING AS INDICATED. "X" = RUNWAY WIDTH
OVER 4 OR 37'-6", WHICHEVER IS LESS.



INSTRUMENT AND ALL-WEATHER RUNWAY



CHEVRON AND ARROW DETAIL

FIGURE 2. MARKING OF DISPLACED THRESHOLD