

Summary of Changes To FAA Marking Standards

**AC 150/5340-1L, Dated
9/27/2013**

**Eastern Region Certification Bulletin
2014-02**



U.S. Department
of Transportation

Federal Aviation
Administration

Advisory Circular

Subject: Standards for Airport Markings **Date:** 9/27/2013 **AC No:** 150/5340-1L
Initiated by: AAS-100 **Change:**

1. What is the purpose of this advisory circular (AC)?

This advisory circular (AC) contains the Federal Aviation Administration (FAA) standards for markings used on airport runways, taxiways, and aprons.

2. Does this AC cancel any prior ACs?

This AC cancels AC 150/5340-1K, Standards for Airport Markings, dated September 3, 2010.

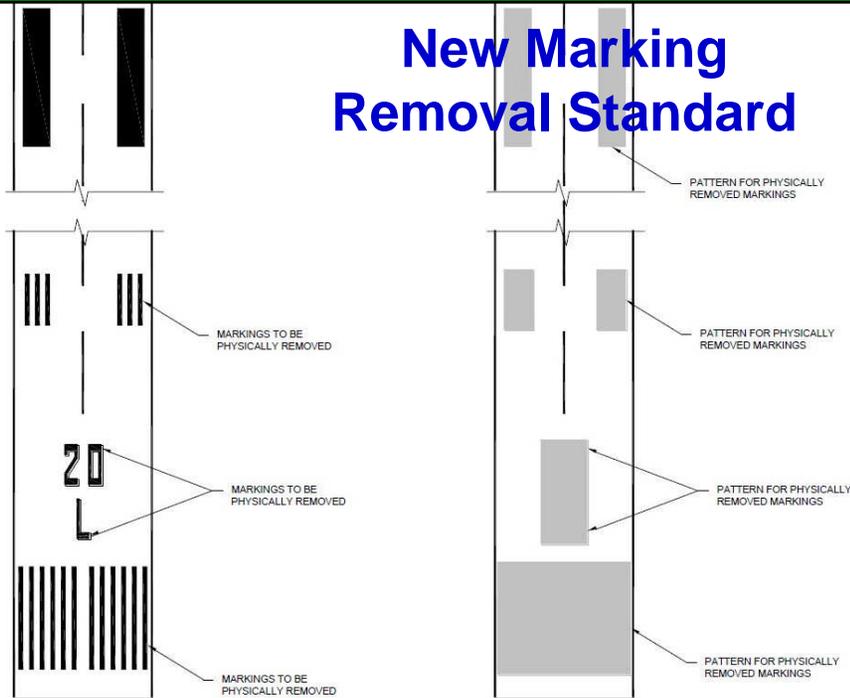
3. To whom does this AC apply?

The FAA recommends the guidelines and standards contained herein for the marking of airport runways, taxiways, and aprons. The use of these standards is the only method of compliance with the marking of runways, taxiways, and aprons for airports certificated under Title 14 Code of Federal Regulations Part 139, Certification of Airports (Part 139). These standards are to be used on all new airport projects that are under development and are to be implemented at all Part 139 certificated airports. Further, use of this AC is mandatory for all projects funded with federal grant monies through the Airport Improvement Program (AIP) and/or with revenue from the

AC 150/5340-1L was issued 9/27/2013. An Errata Sheet was issued January 10, 2014, to correct errors. Note: Download current AC which includes corrections from Errata Sheet.

Marking Change in 150/5340-1L

New Marking Removal Standard

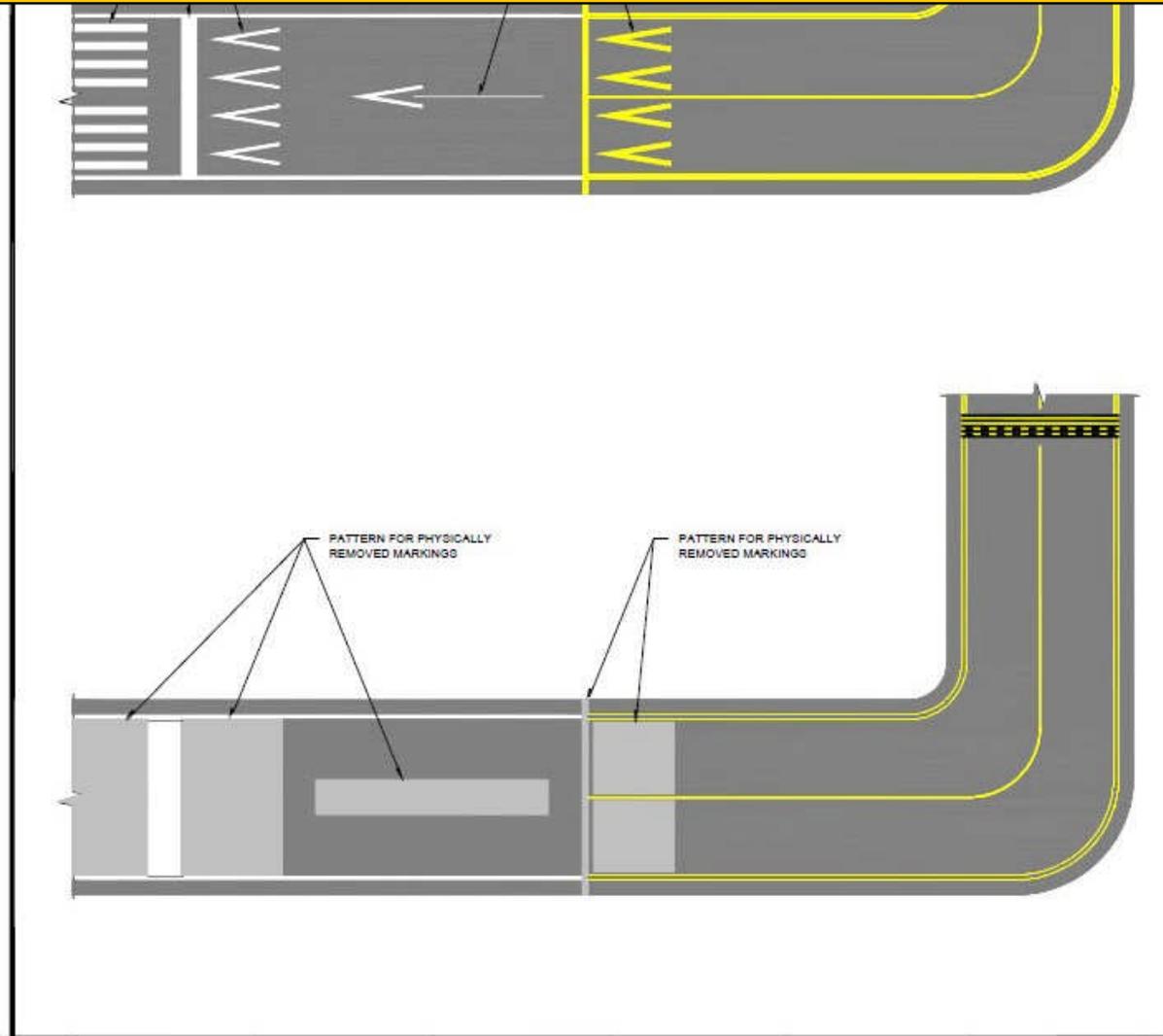


Removal of markings must now be accomplished in blocks to eliminate the continued visual appearance of the removed marking(s).

AC 150/5340-1L, Par 1.3f, Removal of Markings - The physical removal of any old marking(s) must include a pre-determined larger size and shape of a removal area that encompasses the old marking(s) and by grouping adjacent markings together into a larger rectangular removal area. The rationale behind this practice is to eliminate the continued visual appearance of the removed marking(s).

Marking Change in 150/5340-1L

New Figures 1-1, 1-2, 1-3, & 1-4 have been added to the Marking AC with examples of removal patterns.



Note: For further details, see paragraph 1.3.f.

Figure 1-3. Example of marking removal patterns

Marking Changes in AC 150/5340-1L

Outlining Surface Markings With Black Borders On Concrete Pavements And Light-Colored Pavements (See Table 1-1). Due By 9/27/2015

Surface Markings that Require Black Borders

- (i) Runway centerline marking (per paragraph 2.4).
- (ii) Runway threshold marking (per paragraph 2.5).
- (iii) Runway displaced threshold marking (per paragraph 2.9).
- (iv) Runway threshold bar marking (per paragraph 2.9.a).
- (v) Runway aiming point marking (per paragraph 2.6).
- (vi) Runway landing designator marking (per paragraph 2.3).
- (vii) Runway touchdown zone markings (per paragraph 2.7).
- (viii) All holding position markings (per paragraphs 3.2, 3.3, 3.4, and 3.5) and the non-movement area boundary marking (per paragraph 5.4).
- (ix) Intermediate holding position marking for taxiway/taxiway intersections (per paragraph 3.6).
- x) All taxiway centerline markings on taxi routes designated as surface movement guidance and control system (SMGCS) routes (per paragraph 4.2).
- (xi) Enhanced taxiway centerline marking (per paragraph 4.3).
- (xii) Surface painted holding position sign marking (per paragraph 4.5).
- (xiii) Geographic position marking (per paragraph 4.11).

Surface Markings Recommended for Black Borders.

The advisory circular strongly recommends outlining all other markings not listed paragraph 1.4.a(1), particularly taxiway centerlines per paragraph 4.2.

Surface Painted Holding Position Signs - Reminder



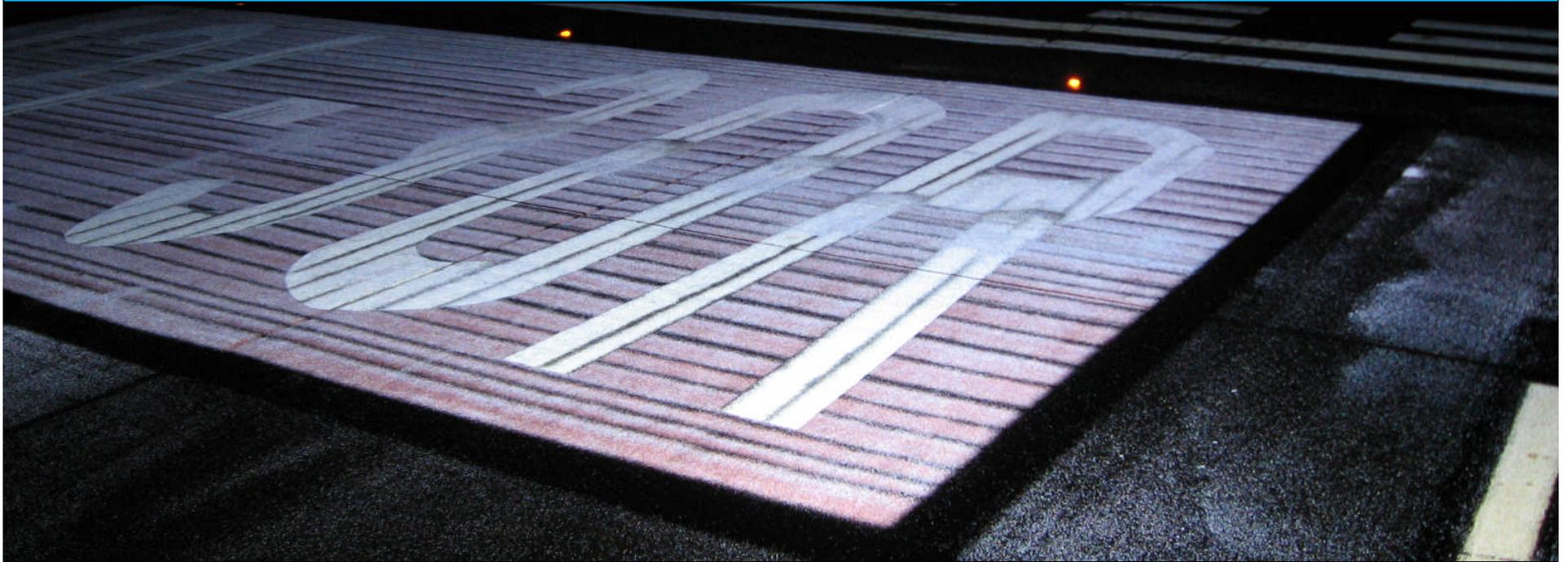
SPHPS have always been required to be glass beaded on the red and white portions of the marking.

*As a reminder, see the application requirements on next slide.

Marking Application Change in AC 150/5370-10F - Reminder

AC 150/5370-10F, *Standards for Specifying Construction of Airports* Item P620

Note: The glass bead application rate for Red and Pink paint shall be reduced by 2 lb./gal. (0.24 kg/l) for Type I and Type IV beads. Type III beads shall not be applied to Red or Pink paint.



The reason for this change is that the higher reflectivity of Type III glass beads, or high application rates on Type I and IV beads, reduces the contrast between the red background and white legend on SPHPS, especially right after painting.

Marking Change in 150/5340-1L

AC 150/5340-1L, 3.3d(1) - Pattern A for the runway holding position marking consists of a set of two (1) continuous lines, two dashed lines, and three spaces that are all parallel, extend across the entire width of the taxiway, measure 12 inches (30 cm) in width, and are separated as shown in Figure A-13. It is located laterally such that that one set of parallel dashed lines is centered on the taxiway centerline. Where the marking extends unbroken over more than one taxiway centerline, locate the marking such that one set of parallel dashed lines is centered on one taxiway centerline.



The holding position marking dashes must now be centered on the taxiway centerline marking. If there is more than one taxiway centerline crossing the Pattern A marking, the dashes are centered on only one centerline.

Marking Change in 150/5340-1L

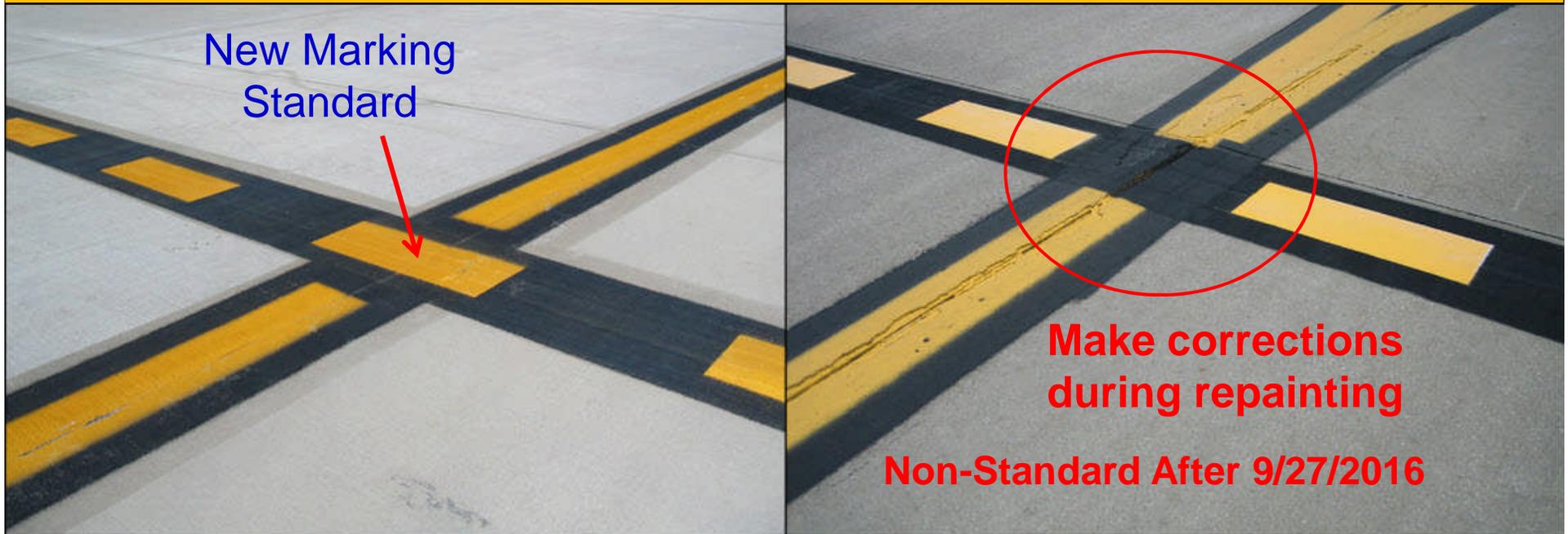
AC 150/5340-1L, 3.5d(1) - Characteristics. Pattern B for the POFZ holding position marking consists of a set of two parallel lines that are 2 feet (0.6 m) wide and spaced 4 feet (1.2 m) apart. These parallel lines are connected by perpendicular sets of two lines that are 1 foot (0.3 m) wide and spaced 1 foot (0.3 m) apart and repeated every 10 feet (3 m). It is located laterally such that a set of perpendicular lines (parallel to the taxiway centerline) are equidistant from the taxiway centerline. Where the marking extends unbroken over more than one taxiway centerline, locate the marking such that one set of perpendicular lines is equidistant from one taxiway centerline. See figure A-13.



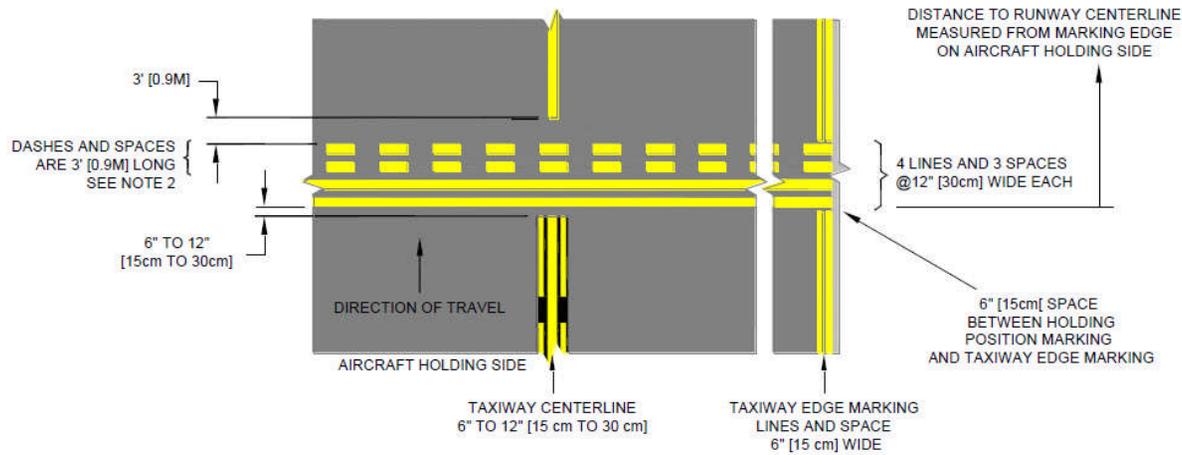
The Pattern B ILS/POFZ marking vertical bars are equidistant from the taxiway centerline marking. If there is more than one taxiway centerline crossing the Pattern B marking, the vertical bars are equidistant on only one centerline.

Marking Change in 150/5340-1L

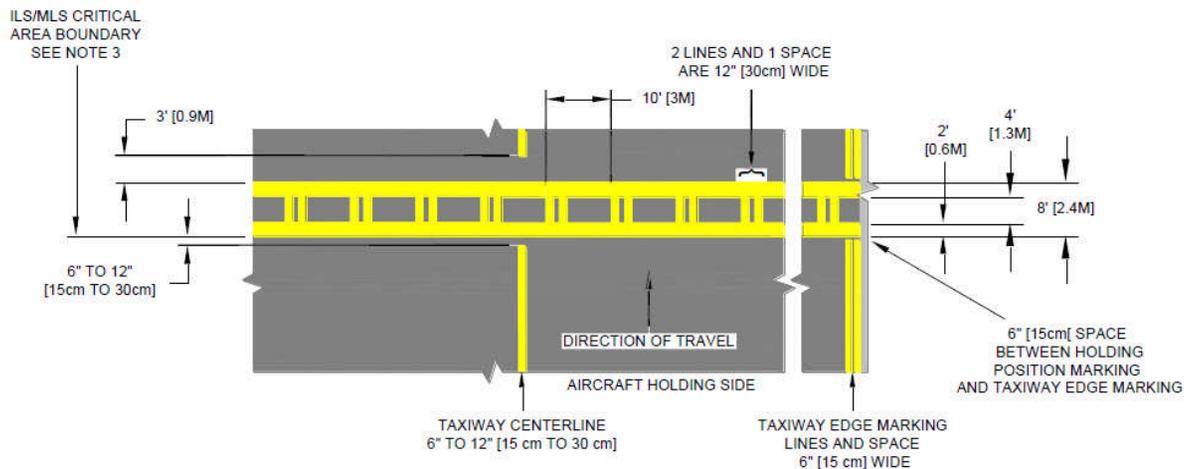
The Pattern C holding position marking dash must now be centered on the taxiway centerline marking. If there is more than one taxiway centerline crossing the Pattern C marking, the dash is centered on only one centerline.



AC 150/5340-1L, 3.6d - Characteristics. The marking is located laterally such that that one dashed line is centered on the taxiway centerline. Where the marking extends unbroken over more than one taxiway centerline, locate the marking such that one dashed line is centered on one taxiway centerline. As shown in Figure A-14, all intersecting taxiway centerlines are spaced 6 to 12 inches (15 cm to 30 cm) on either side of this marking. When the taxiway has taxiway edge markings, the taxiway edge markings are interrupted.



PATTERN A - RUNWAY HOLDING POSITION MARKING



PATTERN B - ILS/MLS HOLDING POSITION MARKING

Centering the dashes of holding position markings on the taxiway centerline has always been shown in the Figures of the Marking AC. AC 150/5340-1L is the first version to include language stating what has been shown in the figures.

Prior Marking Changes That Should Have Already Been Corrected by 9/3/2012



AC 150/5340-1L, Par 3.3d. For taxiways having taxiway edge markings. The edge markings are interrupted as shown in Figure A-13 so that the Pattern A marking continues to the edge of the defined taxiway width.

Marking Change in 150/5340-1L

Pattern B ILS/POFZ Holding Position Markings



AC 150/5340-1L, Par 3.4d (3), For taxiways having taxiway edge markings, interrupt the taxiway edge marking so that the Pattern B marking continues to the edge of the defined taxiway width as shown in Figure A-13.

The new Marking AC includes a change that now requires the taxiway edge marking to be interrupted for Pattern B holding position markings. 1K only required taxiway edge markings to be interrupted for Pattern A hold markings.

Marking Change in 150/5340-1L

Pattern C Intermediate Holding Position Markings



AC 150/5340-1L, Par 3.6d,

When the taxiway has taxiway edge markings, the taxiway edge markings are interrupted.

Marking Change in 150/5340-1L

Non-Movement Area Boundary Markings



When the taxiway has taxiway edge markings, the taxiway edge markings are interrupted.

AC 150/5340-1L, Par 5.4d(4),

If the non-movement area boundary marking that includes a black border intersects a taxiway edge marking, then the taxiway edge marking is interrupted such that the taxiway edge marking abuts the black border of the non-movement area boundary marking.

Marking Change in 150/5340-1L

AC 150/5340-1L, Par 4.3d(2) - In comparison, on a taxiway, as shown in Figure D-11 (Note 1) and Figure D-13, where the enhancement is 150 feet (45.7 m) or less and emerges with a straight or curved taxiway centerline, the enhancement terminates at the last set of full dashes prior to the point of tangency with the other taxiway centerline.



AC 150/5340-1K previously stated that ETCL markings merging with another centerline are terminated at the point of tangency.

Runway Marking Standards - Reminder

AC 150/5340-1L, Par 2.5 c. - Location. When a runway is remarked during a reconstruction, overlay, extension, shortening, or seal project after 9/27/2013, make sure that the distance between a required 10' wide threshold bar and the threshold markings is 10'. This standard should be verified on the construction drawings before painting the new runway markings. See Figure #'s A7 - A9.



New Marking Standard in 150/5340-1L

4.12. Ramp control markings.

a. Purpose. The ramp control marking is used to facilitate the local ramp tower or the FAA airport traffic control tower in the movement of aircraft and vehicles to designated areas of ramps, aprons, and other paved areas between non-movement areas and the movement area. In terms of controller workload, the surface marking simplifies verbal communications between controllers, pilots, and vehicle drivers during this transition process.

b. Requirement. This marking is optional.

c. Location. The ramp control marking is predominantly located on terminal aprons and cargo ramps within the non-movement area but may be painted within the movement area.

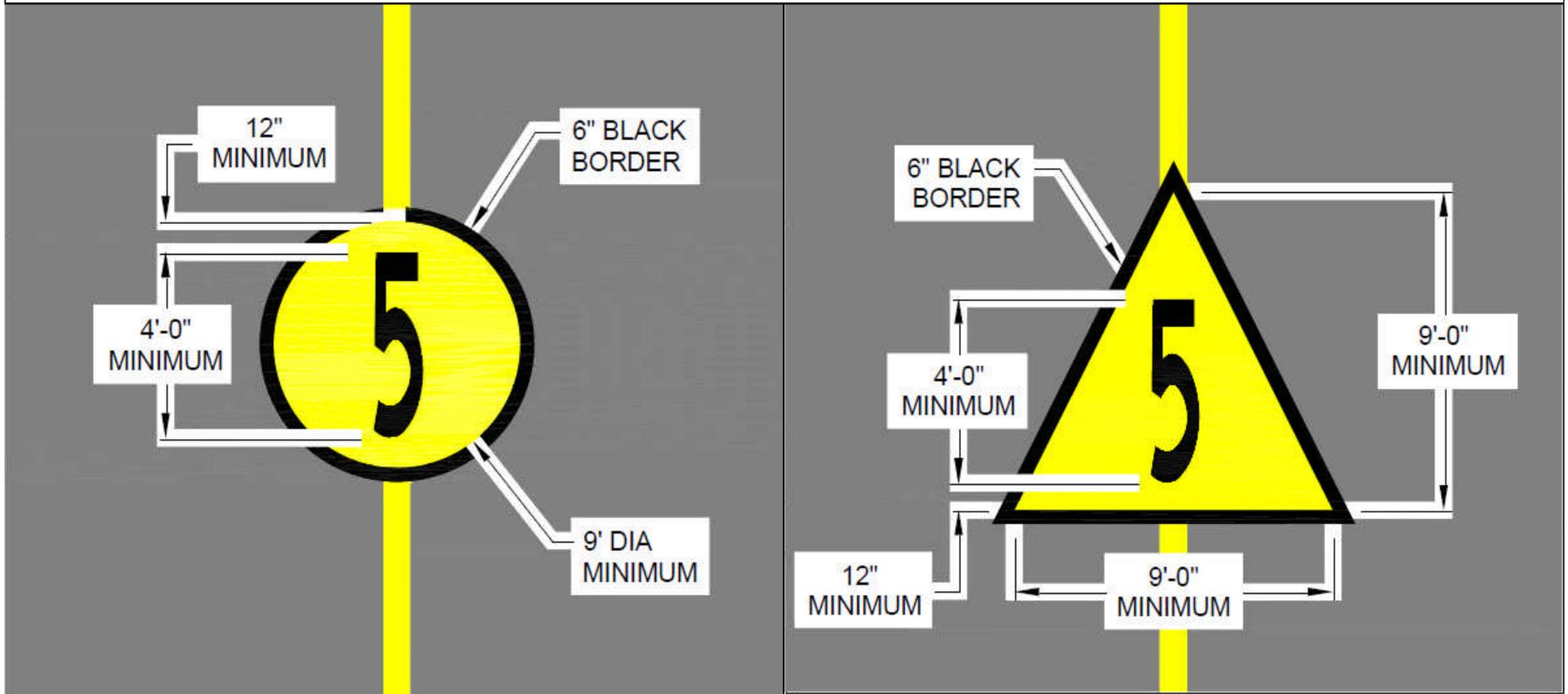
d. Color. The ramp control marking has a black inscription on a yellow background with a black border when painted on light-colored pavements. See Table 1-1 for general guidelines for determining light-colored pavements. The black inscription, determined by the airport operator, may be numeric, letters, or alphanumeric with or without special characters such as an arrow. Flexibility is acknowledged for the black inscription as a means for the airport operator to address the varied operational applications conducted on diverse apron and ramp layouts. The black inscription is centered within the surface marking with a height of at least 4 feet (1.2 m). The numbers, letters, and other characters used in the inscription are scaled to those in Appendix B.

e. Characteristics. Two recommended shapes for ramp markings are as follows.

Note: Existing ramp marking schemes that differ from the two recommended shapes may remain until repainting is necessary for a major section or to replace the existing marking scheme to one of the recommended shapes.

New Marking Standard in 150/5340-1L

Figure 4-5



(a) Circular Shaped Ramp Control Marking Details

(b) Triangular Shaped Ramp Control Marking Details

The Triangular shaped Ramp Control Marking provides the added function of specific direction of travel.