

CHANGE

AC NO: 150/5300-8 CHG 1

DATE: 4/3/75



ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

SUBJECT: CHANGE 1 TO ADVISORY CIRCULAR 150/5300-8, PLANNING AND
DESIGN CRITERIA FOR METROPOLITAN STOL PORTS

1. PURPOSE. This change transmits revised pages describing and illustrating the recommended color coding for threshold lights and runway end lights on Short Takeoff and Landing (STOL) runways.
 2. EXPLANATION OF CHANGE. Criteria heretofore have required that alternate green-yellow-green ... filters be placed on the approach side of a STOL runway. This green-yellow-green ... system was installed for limited-use, in-service testing on the STOL runway at the Houston Intercontinental Airport, Houston, Texas. During the commissioning flight, it was noted that at distances of three-fourths mile, or more, the desired green light color disappeared. As an experiment to remedy this loss of the green color, the filters on one threshold were left in the alternating green-yellow-green ... configuration. On the other threshold, the filters were moved to display the traditional green threshold wing bar with a solid yellow runway end bar. The old and the new Figure 14, Lighting Configuration (page 30), illustrate this change vividly. A subsequent survey of using pilots showed a unanimous preference for the modified (green wing bar - yellow end bar) configuration as being most distinctive and most indicative of the threshold location.
 3. ACTION. Existing STOL runway approach lights following the green light, yellow light, green light ... configuration should be reconfigured to the green threshold bar, yellow end bar, green threshold bar configuration at the earliest practical date. At the time of conversion, the airport owner should initiate a "Notice to Airmen" advising them of this change in light signal.
 4. HOW TO OBTAIN ADDITIONAL COPIES OF THIS PUBLICATION. Additional copies of this Change 1 to AC 150/5300-8, Planning and Design Criteria for Metropolitan STOL Ports, may be obtained from the Department of Transportation, Publications and Forms Section, TAD-443.1, Washington, D.C. 20590.
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5. PAGE CONTROL CHART.

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36. MIXED OPERATIONS.

At a conventional airport, where conventional aircraft and STOL aircraft operate on the same runway, only conventional markings should be applied to that runway.

37. RUNWAY LIGHTING.

The following lighting system should be installed on STOL runways where instrument or night operations are contemplated (see Figure 14). All above-ground lights are frangibly mounted and provided with at least three steps of brightness control.

a. *Threshold lighting* consists of two groups of four L-819 light fixtures forming wing bars symmetrically located about the runway centerline. The innermost light is in line with the runway edge lights. The lights are green in the direction of approach. They are red in the opposite direction. The lights do not exceed 14 inches in height above the runway edge. In the case of single-direction operations, only the appropriate lights are shown.

b. *Runway edge lighting* consists of alternate yellow and white L-819 or L-802 light fixtures spaced at even intervals, at least 100 feet apart but not more than 200 feet apart. The lights do not exceed 14 inches in height above the runway edge and are not placed more than 10 feet from the edge of the full-strength pavement. The L-802 fixture light uses 45-watt lamps with the yellow filter, and 30-watt lamps with the white lens.

c. *Runway end lights* consist of a bar of seven L-850B lights with red filters symmetrically placed about the runway centerline spaced five feet apart and on line with the runway threshold lights. The center light is on the extended runway centerline. In the event of bidirectional operation, L-850A lights with red filters to mark the runway end and yellow filters to mark the runway threshold are installed.

d. *Runway distance remaining lights* consist of four L-850B lights with red filters installed on the runway centerline, beginning 50 feet from the runway threshold in the direction of the rollout and blanked out on the other side. The lights are 50 feet apart (see Figure 14).

e. *Visual approach slope indicators (VASI-2)* are in accordance with AC 150/5340-14B except that:

(1) The spacing between the upwind and downwind units is 150 feet.

(2) The downwind bar is located 175 feet from the runway threshold.

(3) The glide path angle is 6 to 8 degrees and the optimum appears to be 7.5 degrees.

(4) The spread between the upwind and downwind units is 0.7 of a degree.

(5) The system is energized continuously and provided with day-night intensity control by means of a photocell.

(6) It should be noted that the VASI guidance accuracies close to the STOL port are not acceptable unless used in conjunction with another aid. This aid could be airborne (such as a heads-up display) or ground based (such as the Navy mirror system). Studies are currently underway to determine a solution to this problem.

f. *Runway End Identifier Light System (REILS)* is in accordance with AC 150/5340-14B and consists of two flashing lights located in line with the runway threshold lights. The system provides early runway identification and is beneficial in metropolitan areas where a preponderance of lighting exists (see Figure 14).

38. STOL PORT BEACON.

In lieu of the conventional airport beacon, a new beacon is being developed for STOL ports. The intensity will be sufficient to identify it from a distance of 3 miles.

39. WIND DIRECTION INDICATOR.

A wind indicator adjacent to the landing area is recommended. This should be located so that it will be prominent but will not be a hazard to flight. In addition, the wind indicator should be located to preclude the possibility of spurious effects from a nearby building or structure. The wind cone fabric color should contrast with its surroundings. The wind indicator should be lighted.

