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DATE: 9/1/77



ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

SUBJECT: TERMINAL CONFLICT ALERT (CA)

1. PURPOSE. This Advisory Circular describes the capabilities and limitations of the Terminal Conflict Alert (CA) function being implemented at Automated Radar Terminal System (ARTS III) equipped terminal facilities.

2. DISCUSSION.

a. As demand for ATC service increases, greater emphasis is being placed on new programs to assist in maintaining safe spacing between aircraft. One program being implemented alerts controllers to closures between two or more aircraft that require immediate attention. To provide this alert, an automated conflict detection function called terminal conflict alert (CA) is being incorporated in the ARTS III computer's software program. This function is accomplished by projecting a horizontal and vertical volume of airspace around each target to a future position point. A three-dimensional tracker uses Mode C automatic altitude reports from aircraft transponders to assist in accomplishing this task. Whenever the airspace envelope associated with an aircraft is predicted to overlap the airspace envelope, of another aircraft, a conflict situation is likely. An aural and visual alert is generated at the controller's display when a conflict is declared. Aircraft having operating altitude encoding transponders under the control of an ARTS III equipped facility will automatically be processed by the CA function. The program is expected to be operational at all ARTS III facilities by mid 1978.

b. If a suitably equipped controlled aircraft is detected in a potential conflict the pilot will receive a safety advisory or clearance from ATC if, in the controller's judgment, action is necessary.

c. Computer detection of potential conflicts may not occur because of radar limitation (garbled or missing beacon report, etc.) or abrupt aircraft maneuvers.

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d. Conflict alert cannot replace good operating practices. It is only intended to provide air traffic controllers assistance in providing air traffic services.

e. There is no operational program or procedure designed to replace the "see and avoid" practice in the cockpit. Use of CA in no way relieves the pilot of his responsibility for the safe operation of his aircraft.

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