

Cancelled 61-43/00 - 2102K 8500

Federal Aviation Agency

ADVISORY CIRCULAR

AC NO: 61-20

CERTIFICATION: PILOTS
AND FLIGHT INSTRUCTORS

EFFECTIVE :

5/4/65

SUBJECT : INTEGRATED FLIGHT INSTRUCTION

1. PURPOSE. This circular provides information on the objectives of integrated flight instruction, and on the procedures for its administration.
2. BACKGROUND. Significant misunderstanding of the objectives and procedures of integrated flight instruction continues to exist, although this method of flight instruction has been in general use for at least five years. It has been adequately demonstrated that the use of this method of primary flight instruction produces more competent pilots without adding to the total time necessary to pass the private pilot flight test. Surveys have indicated that integrated instruction has been generally accepted by flight schools and instructors, but that there is considerable variation in its application and students' understanding of its objectives. Integrated primary flight instruction is not required by the Federal Aviation Regulations, although instruction in flying by reference to instruments is specifically required before a student pilot's first solo cross-country flight.
3. OBJECTIVES. Integrated flight instruction is recommended as the most efficient means to train pilots to fly more accurately, efficiently, and safely. The habit of referring to the flight instruments for heading, altitude, attitude, and airspeed information without conscious diversion of attention is essential for the safe operation of high performance and complex airplanes.
4. PROCEDURES.
 - a. During his familiarization with the flight controls on his first instructional flight, the student should be introduced to the indications of the flight instruments, and given the opportunity to compare them with the appearance of the natural horizon in various normal flight attitudes.
 - b. Thereafter, the performance of each new flight maneuver is demonstrated and practiced by the use of outside visual references and by

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flight instrument indications. The maneuver may be introduced first with either set of references, as the instructor prefers. The same maneuver is then performed using the other set of references. No distinction in the performance of the maneuver or control usage because of the references used should be implied or permitted.

- c. To ensure that the student uses only instrument references, a view-limiting device such as a hood or an extended visor cap, should be used for the instrument reference portions of his instruction. The device used should be easily demountable, so that the transition to and from the use of instrument references can be effected quickly and conveniently. Information on such devices may be found in AC 61-19.
- d. During instruction using outside references, the instructor must be alert to see that the student does not revert to the use of flight instruments only, ignoring outside references. If this happens, it may be necessary to cage or cover the gyro instruments to require the use of outside references during early phases of instruction.
- e. Integrated flight instruction may be conducted with the use of the "needle, ball, and airspeed" instruments only, but the use of all available instruments is recommended.
- f. Instruction in the use of both outside visual references and instrument indications for all flight maneuvers which do not require ground references for their performance should continue throughout the student's dual instruction.
- g. When the student's competence has advanced to the point at which he habitually uses instrument indications to check the accuracy of his performance of all flight maneuvers, the use of a visor or hood may be found unnecessary, except for review of earlier instruction.


George S. Moore
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