

MA-494.4

AC 120-35A

DATE 8/11/81

ADVISORY CIRCULAR



DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

Subject: LINE-ORIENTED FLIGHT TRAINING PROGRAMS

1. PURPOSE. This circular sets forth one means that would be acceptable to the Administrator for approval of a line-oriented flight training (LOFT) program under Section 121.409 of the Federal Aviation Regulations (FAR).

2. CANCELLATION. Advisory Circular 120-35, dated May 24, 1978, is canceled.

3. BACKGROUND.

a. The Federal Aviation Administration (FAA) has recognized the need for the continued updating and improving of air carrier training programs. FAR 121.441(a) permits a course of training to be substituted for a proficiency check provided the course of training under FAR 121.409(b) consists of at least 4 hours of training at the pilot controls of an approved aircraft simulator and includes the maneuvers listed in Appendix F, FAR 121. Appendix F established procedures for evaluating the individual performance of cockpit crewmembers. These procedures are well founded but have the tendency to isolate the crewmember from the normal operating environment during the evaluation period. Over a period of years, the items to be checked have become stereotyped, resulting in the pilot being evaluated knowing exactly what to expect. However, in day-to-day line operation, the possibility of an abnormal or emergency situation occurring is always present. When it does occur, there is an integral crew to cope with the problem. A LOFT program will place a crewmember in an environment similar to that in which he/she operates on a daily basis. This type of program will promote the coordinated crew concept by requiring the crew to make decisions and solve problems that can arise in line operations.

b. A National Aeronautics and Space Administration (NASA) workshop, comprised of various segments of industry, produced a compendium for conducting LOFT. These guidelines, while not mandatory, are excellent for designing LOFT programs. To adequately address the needs of industry concerning LOFT, this advisory circular has been revised.

4. GENERAL. The following conditions apply when approving this type of training program:

Initiated by: AFO-260

a. Operators may not conduct training under the LOFT concept unless the training syllabus (scenario) is approved by the Administrator and the Administrator determines that the training syllabus (scenario) will provide a level of safety equivalent to the training procedures currently utilized. Each syllabus (scenario) should provide at least two representative flight segments of the operator's route. Each syllabus (scenario) should also provide at least 2 hours and 30 minutes of training at respective crew positions in addition to a proper briefing before and after the training. The additional 1 hour and 30 minutes of training necessary to comply with FAR 121.409(b)(1) may be utilized by the certificate holder for specific training requirements subject to the approval of the Administrator.

b. LOFT shall be conducted with crewmember positions occupied by line crewmembers qualified and serving in the respective crew positions. Check pilots and check engineers should not be substituted for line flying personnel. In the event that a substitution is necessary, the person substituted should be qualified to serve in that crew position and may not have seen the scenario to be used. Credit for the LOFT may be taken only by those persons utilized in their primary crew positions.

c. Captains who maintain dual aircraft qualifications may participate in this course, but it may not be substituted for one of the required proficiency checks.

d. Each instructor or check airman used in this course should be currently line qualified. This does not delete the requirement for the presence of a check airman when this course is being used to fulfill the proficiency check requirements of FAR 121.427(d)(1) and (d)(2)(ii) and FAR 121.441(a)(2) for pilots other than pilots in command and flight engineers. If an instructor or check airman who is not presently line qualified is used in this course, he/she shall remain current in line operational procedures by observing operating procedures from the jump seat at least once every 3 months on a regularly scheduled flight. Each instructor or check airman used in this type course should be thoroughly indoctrinated in the LOFT concepts prior to participation.

e. Where training involves a three-man flightcrew, two instructors or check airmen are required (i.e., pilot and flight engineer). If the training is accomplished with one instructor or check airman, the flight engineer may not receive credit otherwise permitted by FAR 121.427(d)(2)(ii).

f. The instructor or check airman should adhere to the syllabus and not improvise or add to it. Abnormal or emergency situations should be induced as required. Once an abnormal or emergency condition has been induced, it should remain for the duration of the flight segment unless it is corrected by flightcrew actions.

g. The instructor may not "freeze" the simulator position or problem to allow the flightcrew to cope with a simulated problem. The flight should be representative of "real" flight segment times. In simulating an extended route segment, the flight may be advanced along the flight planned route to facilitate entry into the descent and approach phase.

h. Prior to the simulator flight, the instructor should conduct a normal preflight briefing issuing a standard flight plan, weather information, dispatch release, etc., as is normally required by the carrier for line operation. The briefing should include an explanation of the LOFT concept. At the end of the training session, a thorough debriefing of the simulator flight should be accomplished. The flightcrew should participate in both the briefing and debriefing.

i. The instructor or check airman should not make any comments, give suggestions, or provide any input into the operation once the training has commenced. All comments or criticisms should be reserved for post flight debriefing.

j. FAR 121 permits the satisfactory completion of this program to be substituted for the check requirements for first officers and flight engineers as referenced in subparagraph d above.

k. FAR 121 provides the operator with the prerogative of continuing training as presently outlined in FAR 121.409 or devising a LOFT program as outlined herein.

l. Each operator is encouraged to thoroughly review the NASA Guidelines For Line Oriented Flight Training, NASA CP2184 Volume I. Copies may be purchased from the National Technical Information Service, Springfield, Virginia 22161, (703) 487-4650.

5. TRAINING PROGRAM. Each operator desiring approval of this type program shall submit to the appropriate principal operations inspector (POI) a detailed outline of its proposed program. Principal operations inspectors should ensure that the proposed program meets all of the conditions of this advisory circular. The training program should include the following:

a. Sufficient syllabi (scenarios) should be developed so crewmembers will not receive the same syllabus during any subsequent training period. At least four approved training syllabi for a two-man flightcrew and six approved training syllabi for a three-man flightcrew should be developed to provide for variations and should include abnormal and emergency procedures. These syllabi should represent typical flight segments that the operator's flightcrew could realistically expect to fly. The profile should be designed so that the pilot in command will normally fly one segment and the second in command one segment to provide normal division of duties. Prior to approval of LOFT, a sampling of the proposed syllabi will be flown by appropriately qualified FAA air carrier inspectors to determine adequacy.

b. Aircraft and cockpit checklist procedures should be identical to those used in line operation.

c. Normal radio communications should be used. The instructor or check airman may provide "outside" communications.

d. Simulator en route and approach navigation aids should correspond to those at departure, en route, and arrival point. Instrument approach navigation aids should be properly oriented in relation to the airport being used.

e. To enhance realism, preflight and postflight paperwork should duplicate as closely as possible that encountered in line operations.

f. LOFT is a training course which must be satisfactorily completed. Whenever airman performance during a LOFT course is such that additional training is required, such training shall be provided prior to the airman's return to line operations.



BERNARD A. GEIER
Acting Director of Flight Operations

4

Par 5

US Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave. S.W.
Washington, D.C. 20591

Official Business
Penalty for Private Use \$300

PRESORTED FIRST-CLASS MAIL
POSTAGE & FEES PAID
FEDERAL AVIATION ADMINISTRATION
PERMIT NO. G-44