

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 135

[Docket No. 28743; Notice No. 98-11]

RIN 2120-AG55

Commercial Passenger-Carrying Operations in Single-Engine Aircraft Under Instrument Flight Rules

AGENCY: Federal Aviation Administration, DOT.

AGENCY: Notice of proposed rulemaking.

SUMMARY: The Federal Aviation Administration (FAA) is proposing to revise and clarify certain conditions and limitations in Part 135 for instrument flight rule (IFR), passenger-carrying operations in single-engine aircraft. The clarification is necessary to resolve ambiguity in the current rule over the requirement for redundant power for gyroscopic instrumentation. The intended effect of this action is to remove any ambiguity concerning the required power sources for the gyroscopic instruments required for flight under IFR for single engine aircraft involved in commercial, passenger carrying operations.

DATES: Comments must be received by March 12, 1998.

ADDRESSES: Comments on this notice should be submitted in triplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC-200), Room 915-G, Docket No. 28743, 800 Independence Ave., SW, Washington, DC 20591.

Comments must be marked Docket No. 28743. Comments also may be submitted electronically to the following Internet address: 9-nprm-cmts@faa.dot.gov. Comments may be examined in room 915G weekdays between 8:30 a.m. and 5 p.m. except on Federal holidays.

FOR FURTHER INFORMATION CONTACT: Mr. Dan Meier, Flight Standards Service, Federal Aviation Administration, 800 Independence Ave., SW, Washington, DC, 20591 (202) 267-8166.

SUPPLEMENTARY INFORMATION:**Comments Invited**

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Comments relating to the environmental, energy, federal, or economic impact that might result from adopting the proposals in this notice are also invited. Substantive comments should be accompanied by cost

estimates, if appropriate. Comments should identify the regulatory docket or notice number and should be submitted in triplicate to the Rules Docket address specified above. All comments received on or before the specified closing date for comments will be considered by the Administrator before taking action on this proposed rulemaking. The proposals contained in this notice may be changed in light of comments received. All comments received will be available, both before and after the closing dates for comments, in the Rules Docket for examination by interested persons. A report summarizing each substantive contact with FAA personnel concerned with this rulemaking will be filed in the docket. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include a pre-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 28743." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

An electronic copy of this document may be downloaded, using a modem and suitable communications software, from the FAA regulations section of the Fedworld electronic bulletin board service (703) 321-3339, the **Federal Register's** electronic bulletin board service ((202) 512-1661), or the FAA's Aviation Rulemaking Advisory Committee Bulletin Board service ((800) 322-2722 or (202) 267-5948).

Internet users may reach the FAA's web page at <http://www.faa.gov> or the **Federal Register** web page at http://www.access.gpo.gov/su_docs for access to recently published rulemaking documents.

Any person may obtain a copy of this NPRM by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Ave, SW, Washington, DC 20591, or by calling (202) 267-9677. Communications must identify the notice number or docket number of this NPRM.

Persons interested in being placed on the mailing list for future NPRMs should request from the above office a copy of Advisory Circular No. 11-2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

Background

On August 6, 1997, the FAA published Amendment 135-70 (62 FR 42364) that allowed commercial, passenger-carrying operations under IFR in single-engine aircraft under certain

conditions and limitations, and eliminates the limited IFR provision of the current rule. The effective date for the new rule is May 4, 1998 (62 FR 45014) to allow operators to obtain the necessary parts and approvals, to modify their operations manuals and specifications, and to retrofit their aircraft. The FAA also established Special Federal Aviation Regulations (SFAR) 81 to accommodate those operators who may be ready to meet the requirements of the rule sooner than the effective date.

Discussion of the Proposed Rule

Current SFAR 81, paragraph 2(b) and 14 CFR 135.163(h) require single-engine, passenger-carrying aircraft flying IFR to have two independent sources of energy (with means of selecting either), of which at least one is an engine-driven pump or generator, each of which is able to drive all gyroscopic instruments and installed so that failure of one instrument or source does not interfere with the energy supply to the remaining instruments or the other energy source.

A question was raised as to whether this requirement would allow the use of a "split panel," in which gyroscopic instruments could be driven by different energy sources, including vacuum, bleed air, or electrical sources. This question was also raised when the original requirement for dual sources of energy for gyroscopic instruments was promulgated. In the October 10, 1978 (43 FR 46769) preamble discussion regarding § 135.163(h), the Agency stated that:

Other commenters state that § 135.163 prohibits "splitting" gyro instruments between electrical and vacuum sources and that defeats safety. For instrument panels with both electric and vacuum instruments, a pump or generator is unable to drive all gyroscopic instruments. The pilot must be able to select an energy source which will drive all gyros if the other source fails. Anything less under IFR conditions would derogate safety. *Where a split panel is desired, each engine must have both a generator and a vacuum pump.* (emphasis added)

Thus, in October 1978, the Agency clearly contemplated that split panels would be used and that failure of one energy source must not impact the operation of the gyroscopic instruments. This requirement can readily be met by multi-engine aircraft because 14 CFR parts 23 and 135 require each independent source of energy to be on separate engines and that the means of selecting the energy source be either automatic or manual. For single-engine aircraft, however, the issue centers on

whether one energy source must be able to drive all gyroscopic instruments. While a single engine airplane does not provide engine redundancy, system redundancy is still required for each gyroscopic instrument.

Therefore, the FAA has determined that a "split panel," i.e., instruments driven by separate and independent sources, is an acceptable configuration for single-engine aircraft provided that each required gyroscopic instrument has a redundant energy source. This means that if any one energy source fails, all gyroscopic instruments must remain operable. This does not mean, however, that each source must drive *all* of the instruments, but rather that the failure of any one source would not result in the loss of energy to any gyroscopic instrument powered by that energy source.

For example, an acceptable configuration would be a gyroscopic direction indicator powered by redundant electrical sources, and a gyroscopic pitch and bank indicator (with artificial horizon) powered by bleed air and vacuum sources. Failure of any one energy source would not affect operation of all of the gyroscopic instruments. Thus, in this example, if one electrical source fails there is a redundant electrical system to power the direction indicator, and the artificial horizon indicator continues to be powered by the vacuum or bleed air system.

Therefore, to clarify that although each independent source of energy need not drive all gyroscopic instruments, and that each gyroscopic instrument must be powered by redundant sources, the Agency has deleted the phrase "all gyroscopic instruments," and has replaced it with the phrase "all gyroscopic instruments powered by, or to be powered by, that particular source."

The FAA also wishes to clarify that where single-engine, passenger-carrying IFR operations are flown with a single pilot and an autopilot, only the gyroscopic instruments on the pilot's panel need be operable and powered by redundant energy sources. However, where such operation is to be flown with both a pilot and a co-pilot, the gyroscopic instruments on both panels must be operable and powered by redundant energy sources.

Another question was raised as to the meaning of the phrase "means of selecting either," as it pertains to energy source redundancy. As discussed above, § 23.1331(c) requires that the means of selecting energy sources be either

automatic or manual. In the example cited above, § 23.1331 would be met because when the direction indicator failed, the redundant electrical source powering that instrument automatically allowed for its continued operation.

Regulatory Analyses

The FAA is proposing this change because some commenters to the final rule on Commercial Passenger-Carrying Operations in Single-Engine Aircraft under Instrument Flight Rules had questions on the redundant sources of power to the gyroscopic flight instruments. This proposed change will alleviate any ambiguity and clarify the regulatory requirements. Therefore, the FAA has determined that this regulation imposes no additional burden on any entity. Accordingly, it has been determined that the action (1) is not significant under Executive Order 12866 and (2) is not a significant rule under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). Also, because this proposed amendment is editorial in nature, no impact is expected to result and a full regulatory evaluation is not required. In addition, the FAA certifies that this proposal will not have a significant economic impact, either positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

International Trade Impact

The proposed amendment would not impose any costs on either U.S. or foreign operators. Therefore, a competitive trade disadvantage would not be incurred by either U.S. operators abroad or foreign operators in the United States.

Paperwork Reduction Act

This proposed rule contains no information collection requests requiring approval of the Office of Management and Budget pursuant to the Paperwork Reduction Act (44 U.S.C. 3507 *et seq.*).

List of Subjects in 14 CFR Part 135

Air taxis, Aircraft, Aviation safety, Safety, Single-engine aircraft.

For the reasons set out in the preamble, 14 CFR part 135 is proposed to be amended as set forth below:

PART 135—OPERATING REQUIREMENTS: COMMUTER AND ON-DEMAND OPERATIONS

1. The authority citation for part 135 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701–44702, 44705, 44709, 44711–44713, 44715–44717, 44722.

SFAR No. 81 [Amended]

2. Paragraph 2(b) of Special Federal Aviation Regulation No. 81 is revised to read as follows:

SFAR No. 81—Passenger-Carrying Single-Engine IFR Operations

2. * * *

(a) * * *

(b) Two independent sources of energy (with means of selecting either) of which at least one is an engine-driven pump or generator, each of which is able to drive all gyroscopic instruments powered by, or to be powered by, that particular source and installed so that failure of one instrument or source does not interfere with the energy supply to the remaining instruments or the other energy source, unless, for single-engine aircraft in all cargo operations only, the rate of turn indicator has a source of energy separate from the bank and pitch and direction indicators. For the purpose of this paragraph, for multi-engine aircraft, each engine-driven source of energy must be on a different engine.

* * * * *

3. Section 135.163 is amended by revising paragraph (h) to read as follows:

§ 135.163 Equipment requirements: Aircraft carrying passengers under IFR.

* * * * *

(h) Two independent sources of energy (with means of selecting either) of which at least one is an engine-driven pump or generator, each of which is able to drive all gyroscopic instruments powered by, or to be powered by, that particular source and installed so that failure of one instrument or source, does not interfere with the energy supply to the remaining instruments or the other energy source unless, for single-engine aircraft in all cargo operations only, the rate of turn indicator has a source of energy separate from the bank and pitch and direction indicators. For the purpose of this paragraph, for multi-engine aircraft, each engine-driven source of energy must be on a different engine.

* * * * *

Issued in Washington, D.C. on February 4, 1998.

Thomas E. Stuckey,

Director, Flight Standards Service.

[FR Doc. 98–3344 Filed 2–9–98; 8:45 am]

BILLING CODE 4910–13–M