

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Parts 91, 121, 125, and 135

[Docket No. 18904; Amendment Nos. 91-176, 121-175, 125-3, and 135-17]

#### Transport Category Airplanes—Pitot Heat Indication Systems

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** These amendments relieve general aviation operators of transport category airplanes that are operated under Part 91 from the requirement to install pitot heat indication systems to indicate to the flightcrew when the pitot heating system is not operating. The amendments are based on a study which indicates that there have not been any general aviation transport category airplane accidents that could be attributed to a pitot heating system failure. The rule change is also in response to a petition for rulemaking dated January 26, 1979, from the National Business Aircraft Association (NBAA).

**EFFECTIVE DATE:** September 30, 1981.

**FOR FURTHER INFORMATION CONTACT:** Joseph A. Sirkis, Regulatory Projects Branch (AVS-24), Safety Regulations Staff, Associate Administrator for Aviation Standards, 800 Independence Avenue, SW., Washington, DC 20591, Telephone (202) 755-8716.

#### **SUPPLEMENTARY INFORMATION:**

##### **Notice of Proposed Rulemaking**

These amendments are based on Notice of Proposed Rulemaking No. 80-27 (46 FR 76; January 2, 1981). All interested persons were given an opportunity to participate in the making of these amendments, and due consideration was given to all matters presented. These amendments and the reasons for their adoption are the same as those stated in Notice 80-27.

##### **Background of This Rulemaking Proceeding**

###### *Amendment 91-148*

Section 91.50(a), as adopted by Amendment 91-148 (43 FR 10339; March 13, 1978), provided that after April 12, 1981, with certain exceptions, no person may operate a transport category airplane equipped with a flight instrument pitot heating system unless the airplane is also equipped with an operable pitot heat indication system that complies with § 25.1326. Section 25.1326 requires that the indication

provided must incorporate an amber light that is in clear view of a flight crewmember and must be designed to alert the flightcrew if either the pitot heating system is switched "off" or the pitot heating system is switched "on" and any pitot tube heating element is inoperative. All flight operations conducted with transport category airplanes must meet this requirement regardless of the type of operation being conducted.

##### **Petition for Rulemaking by National Business Aircraft Association (NBAA)**

On January 26, 1979, the NBAA petitioned the FAA to amend the Federal Aviation Regulations (FAR) to require that only transport category airplanes operated under Part 121, 123, or 135 meet the requirement to have an operable pitot heat indication system.

A summary of the NBAA's petition was published in the *Federal Register* on October 18, 1979 (44 FR 60107), and no comments were received. The FAA included the petition verbatim in Notice 80-27 to provide the public with all statements submitted by the petitioner in support of its petition.

To allow time to consider fully the NBAA petition, in Amendment 91-172 (46 FR 19; January 2, 1981) the FAA suspended the April 12, 1981, compliance date contained in Amendment 91-148 for operators of transport category airplanes used in general aviation operations under Part 91.

##### **Description of Notice 80-27**

Notice 80-27 proposed to exclude general aviation operators of transport category airplanes operating under Part 91 from the operating requirement to install pitot heat indication systems to indicate to the flightcrew when the pitot heating system is not operating. The requirement was to be retained for commercial, air carrier, travel club, and air taxi operators of transport category airplanes. The proposal was in response to a petition from the NBAA which stated, in essence, that the cost of a pitot heat indication system is not justified for general aviation operators.

Notice 80-27 proposed a new section, § 125.122, for the pitot heat indication system requirement in Part 125. This has been changed to § 125.206, which appropriately places the requirement in Subpart F—Instrument and Equipment Requirements.

##### **Discussion of Comments**

The FAA received 21 public comments in response to Notice 80-27. A majority of commenters, all of whom operate aircraft under Part 91 only, support the

proposal. They agree the proposal would provide financial relief from an unnecessary requirement for general aviation, inasmuch as the cost associated with installing a pitot heat indication system cannot be justified by a proven need for such a warning system. One such commenter states, for example, that in almost 19 years of service experience, his company has never experienced a failure of the pitot heating system on any of the company's aircraft. Similarly, the NBAA contends that existing training in the handling of emergency situations such as instrument failure and recognition of that failure, use of checklists, and cross-checking of instruments provide an equivalent level of safety to that provided by the proposal and that the corporate executive fleet safety record bears this out. The NBAA states that, to the best of its knowledge, there has never been a business aircraft accident attributable to pitot heating system failure.

The FAA, in its study of reports of airplane accidents which have occurred over a period from January 1, 1976, through May 28, 1981, finds no evidence that refutes the NBAA's statement that there is no record of any business or corporate (general aviation) transport category aircraft accident that is attributable to pitot heating system failure. The FAA does not suggest here that general aviation operations are less susceptible than operations conducted under Part 121, 123, 125, or 135 to the problems at which Amendment 91-148 is directed. However, where these operations are concerned, the FAA imposes stricter safety standards than are imposed for general aviation operations under Part 91. Since the operation experience of general aviation operators does not support the need to install a pitot heat indication system, the FAA concludes that the general aviation operator should be relieved of the cost burden associated with installing such a system.

Several commenters oppose the proposal. Some state that the requirement for installing a pitot heat indication system should be retained for Part 91 operations as well as for Part 121, 123, 125, and 135 operations; others state that the requirement should be rescinded for Part 121, 123, 125, and 135 operations as well as for Part 91 operations. Several such commenters state that the requirement for installing a pitot heat indication system should apply to all operations they conduct. They believe that safety standards should be the same for operations conducted under Part 91 as for those conducted under Part 121, 123, 125, or

135, and that the cost of installing a pitot heat indication system would not be prohibitive. An airline pilot's union, in its comment, supports the need for a pitot heat indication system in Part 91 operations because it believes that general aviation transport category airplanes are high-performance aircraft subject to precisely the same hazards as commercial transport category aircraft. This same commenter also implies that the installation costs for such a warning system would not be prohibitive. Another commenter questions the need for installing a pitot heat indication system in Part 135 operations, stating that such a warning system cannot substitute for professionalism in the flightcrew, while another commenter states that in aircraft operated under Part 125 (which may be operated for compensation or hire), the warning system should be an optional item.

The safety standards should not be the same for Part 91 operations as for operations conducted under Part 121, 123, 125, or 135. As stated earlier, where these operations are concerned, the FAA imposes stricter safety standards. In the absence of a record of any general aviation transport category airplane accident attributable to a pitot heating system failure, the cost of compliance with the pitot heat indication system requirement is not justified for general aviation operations conducted under Part 91. However, since air carriers conduct their operations with the highest level of safety and since Part 125 operators may receive compensation for their operations, the FAA imposes stricter standards on such operators. Therefore, the requirement for installing a pitot heat indication system for operations conducted under Part 121, 123, 125, or 135 is warranted. As stated in Amendment 91-148, the addition of a pitot heat indication system, while not guaranteeing against human error, will provide additional assurance that pilots will become aware as early as possible of a potentially dangerous situation.

One commenter suggests that the proposal be revised to allow the use of alternate indicating systems. This was not proposed in Notice 80-27 and cannot be considered as part of this rulemaking proceeding. Similarly, the commenter's point concerning the need for static port heaters is not part of this rulemaking proceeding.

A general aviation manufacturer's association, in its comment, recommends a rule change that would limit the application of § 25.1326, which requires installation of a pitot heat indication system in transport category airplanes, to airplanes used in

commercial, air taxi, air travel club, and air carrier operations. This amendment of § 25.1326 was also proposed by the NBAA in its petition. Such a change was not proposed by the FAA in Notice 80-27. Additionally, no justification was offered by the NBAA for deleting the Part 25 requirement which applies to airplanes whose application for type certificate is made after April 11, 1978. Production of these airplanes will not occur until well in the future. Similarly, the manufacturer's association did not address this aspect in suggesting deletion of this Part 25 requirement.

These amendments do not relieve the operators of those transport category airplanes whose basis for certification includes § 25.1326 from the requirement to install a pitot heat indication system. Section 25.1326 applies to airplanes whose application for type certificate is made after April 11, 1978; however, a number of applications for type certificates were made before that date, and the applicants elected or were required under § 21.17 to include the provisions of § 25.1326 in their basis for certification. Some examples of airplanes required to have a pitot heat indication system as part of their basic design approval include the Boeing 757, the Boeing 767, and the Learjet models 54, 55, and 56.

#### Regulatory Evaluation

The FAA conducted a regulatory evaluation which is included in the regulatory docket for this action. The FAA determined that there is not cost impact on Part 91, 121, 123, 125, or 135 operators of transport category airplanes and only a minimal to negligible cost impact on the Federal Government. Specifically, this rule provides relief to Part 91 operators of certain transport category airplanes manufactured under a type certificate for which application was made before April 12, 1978, by eliminating the requirement to install pitot heat indication systems and imposes no new requirements on such operators. This rule imposes no new requirements on Part 121, 123, 125, or 135 operators. The requirement imposed by § 91.50 to airplanes operated under Parts 121, 123, 125, and 135 remains unchanged although the requirement for installing a pitot heat indication system is now listed separately in Parts 121, 125, and 135. The Federal Government will incur minimal to negligible costs in this revision of Part 91, which is considered to be part of the FAA's ongoing program to revise regulations.

#### Benefits

Implementing this rule provides

benefits in terms of cost savings to Part 91 operators of transport category airplanes. It relieves such operators from the requirement to install pitot heat indication systems in their airplanes. During 1982, which is assumed to be the first effective year of the regulation, FAA estimates equipment, maintenance, installation, and downtime cost savings of a least \$7.6 million to \$10.9 million for operators of approximately 4,700 Part 91 airplanes. Further, cost savings to Part 91 operators of transport category airplanes of \$1.0 million to \$1.2 million each year during 1983-1985 are expected. Cost savings will be less during 1983 through 1985 than in 1982 because of the projected limited number of new production Part 91-operated transport category airplanes and because installation of the equipment could be performed during airplane assembly, thereby significantly reducing the costs. The FAA notes again that § 25.1326 requires a pitot heat indication system on those airplanes for which a type certificate application was made after April 11, 1978.

Accordingly, the benefits of this regulation outweigh the costs.

#### Adoption of the Amendment

Accordingly, Parts 91, 121, 125, and 135 of the Federal Aviation Regulations (14 CFR Parts 91, 121, 125, and 135) are amended as follows effective September 30, 1981:

#### PART 91—GENERAL OPERATING AND FLIGHT RULES

1. By removing and reserving § 91.50 as follows:

##### § 91.50 [Reserved]

2. By adding a new § 121.342 to read as follows:

#### PART 121—CERTIFICATION AND OPERATIONS: DOMESTIC FLAG, AND SUPPLEMENTAL AIR CARRIERS AND COMMERCIAL OPERATORS OF LARGE AIRCRAFT

##### § 121.342 Pitot heat indication systems.

(a) Except as provided in paragraph (b) of this section, after April 12, 1981, no person may operate a transport category airplane equipped with a flight instrument pitot heating system unless the airplane is also equipped with an operable pitot heat indication system that complies with § 25.1326 of this chapter in effect on April 12, 1978.

(b) A certificate holder may obtain an extension of the April 12, 1981, compliance date specified in paragraph

(a) of this section, but not beyond April 12, 1983, from the Director of Flight Operations if the certificate holder—

(1) Shows that due to circumstances beyond its control it cannot comply by the specified compliance date; and

(2) Submits by the specified compliance date a schedule for compliance, acceptable to the Director, indicating that compliance will be achieved at the earliest practicable date.

**PART 125—CERTIFICATION AND OPERATIONS: AIRPLANES HAVING A SEATING CAPACITY OF 20 OR MORE PASSENGERS OR A MAXIMUM PAYLOAD CAPACITY OF 6,000 POUNDS OR MORE**

3. By adding a new § 125.206 to read as follows:

**§ 125.206 Pitot heat indication systems.**

(a) Except as provided in paragraph (b) of this section, after April 12, 1981, no person may operate a transport category airplane equipped with a flight instrument pitot heating system unless the airplane is equipped with an operable pitot heat indication system that complies with § 25.1326 of this chapter in effect on April 12, 1978.

(b) A certificate holder may obtain an extension of the April 12, 1981, compliance date specified in paragraph (a) of this section, but not beyond April

12, 1983, from the Director of Flight Operations if the certificate holder—

(1) Shows that due to circumstances beyond its control it cannot comply by the specified compliance date; and

(2) Submits by the specified compliance date a schedule for compliance acceptable to the Director, indicating that compliance will be achieved at the earliest practicable date.

4. By adding a new § 135.158 to read as follows:

**PART 135—AIR TAXI OPERATORS AND COMMERCIAL OPERATORS**

**§ 135.158 Pitot heat indication systems.**

(a) Except as provided in paragraph (b) of this section, after April 12, 1981, no person may operate a transport category airplane equipped with a flight instrument pitot heating system unless the airplane is also equipped with an operable pitot heat indication system that complies with § 25.1326 of this chapter in effect on April 12, 1978.

(b) A certificate holder may obtain an extension of the April 12, 1981, compliance date specified in paragraph (a) of this section, but not beyond April 12, 1983, from the Director of Flight Operations if the certificate holder—

(1) Shows that due to circumstances beyond its control it cannot comply by the specified compliance date; and

(2) Submits by the specified

compliance date a schedule for compliance, acceptable to the Director, indicating that compliance will be achieved at the earliest practicable date.

(Secs. 313(a), 601, 602, 604, and 607 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1354(a), 1421, 1422, 1424, and 1427); and Sec. 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c))

*Note.*—This document relieves a substantial segment of the aviation community of a cost burden and does not impose any additional burden on any person. Therefore, the Federal Aviation Administration has determined that this document involves a regulation which is not a major rule under Executive Order 12291 or a significant regulation under the DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the final evaluation prepared for this action is contained in the regulatory docket. A copy of it may be obtained by contacting the person identified under the caption "FOR FURTHER INFORMATION CONTACT." It has been determined further that the amendment will not have a significant impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act since it is relieving in nature.

Issued in Washington, D.C., on August 7, 1981.

J. Lynn Helms,  
*Administrator.*

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