

the autopilot with the 150-second desensitization period responded to the disturbances (induced turbulence and vertical wind gusts) by commanding oscillatory pitch changes or changes in pitch that are oscillatory in nature, which increased over time and resulted in significant deviations from the desired flight path. No change to the final rule is necessary in this regard.

Request To Expand AFM Requirements

Boeing suggests that the proposed AFM revisions include additional indicators for approach performance, such as flightcrew monitoring for allowable ILS deviations and horizontal stabilizer activity that indicate an out-of-trim nonstabilized approach. The commenter provides no justification for this request.

In consideration of the amount of time that has already elapsed since the issuance of the original notice, the FAA has determined that further delay of this final rule is not appropriate. However, if additional data are presented that would justify revising the requirements of this AD, the FAA may consider further rulemaking to require AFM revisions that would include the specific requested performance indicators. No change to the final rule is necessary in this regard.

Request To Revise Special Flight Permit Specifications

Boeing requests that, instead of issuing a special flight permit to allow operation of the airplane to a location where the requirements of the AD can be accomplished, the FAA impose operational restrictions on autopilot coupled ILS approaches for that flight.

The FAA partially concurs. The FAA finds that such operational restrictions are acceptable but not necessary in this case because another method is available to operate the airplane; *i.e.*, the airplane can be manually operated during approaches. No change to the final rule regarding this issue is necessary.

Request To Clarify Airplanes Affected by Certain Requirements

One operator requests that paragraph (e) ("Spare Parts") of the proposed AD be revised to more clearly identify those airplanes that would be affected by that proposed requirement. The commenter suggests that the term "any airplane," as it is used in that paragraph, be clarified to explain that not all Model 727-100 and -200 series airplanes are subject to this requirement.

The FAA agrees that not all existing Model 727-100 and -200 series airplanes are subject to the identified

unsafe condition; however, the FAA does not agree that revision of this paragraph is necessary. As stated earlier, the applicability of the final rule has been revised to exclude airplanes equipped with radio altimeter-based autopilots. Any qualifier (including "any" and "all") used to identify airplanes subject to a particular requirement of an AD is relative to the overall applicability of the AD.

Request To Revise Description of the Unsafe Condition

Boeing requests a revision of one sentence in the third paragraph of the Discussion section of the proposed AD. That sentence reads as follows:

Because glideslope deviations close to the runway require smaller pitch corrections than those required far from the runway, the autopilot sensitivity has to be reduced as the airplane nears the runway.

The commenter requests that the sentence be replaced with the following:

The autopilot sensitivity has to be reduced as the airplane nears the runway because the glideslope beam converges as the distance to the glideslope transmitter is decreased (and the same vertical displacement from the beam centerline results in a larger glideslope deviation signal).

This commenter provides no justification for this requested change.

The FAA does not agree with this request. Although the requested language is technically correct, the FAA finds that the simpler explanation in the Discussion section of the proposed AD is adequate to explain the conditions that require autopilot sensitivity changes. No change to the final rule is necessary in this regard.

Request To Revise Description of Accident Cause

Boeing requests a change to one sentence of the final paragraph of the Discussion section of the proposed AD. That sentence reads as follows:

Based on the NTSB's studies and FAA findings, the improper desensitization schedule is considered a contributing factor in the destabilized approach of the accident flight and in the reported pitch event that occurred in 1997.

This commenter requests that the word "improper" be changed to "150-second."

The FAA partially concurs. The requested wording is specific; however, the Discussion section is not repeated in a final rule, so no change is necessary in this regard.

Explanation of Additional Changes to AFM

Some minor additional changes have been made to paragraph (a) of this final

rule. First, the prohibition of coupled ILS approaches, specified in the proposed AD only for "inoperative" middle markers, has been changed in this final rule to "inoperative or nonexistent" middle markers. Second, the second sentence of the revised AFM language has been changed from " * * * during Cat II autopilot coupled ILS approaches" to " * * * during coupled ILS CAT II approaches."

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 750 airplanes of the affected design in the worldwide fleet. The FAA estimates that 162 airplanes of U.S. registry will be affected by this AD.

It will take approximately 1 work hour per airplane to revise the AFM, at an average labor rate of \$60 per work hour. Based on this figure, the cost impact of the required AFM revisions on U.S. operators is estimated to be \$9,720, or \$60 per airplane.

It will take approximately 1 work hour per airplane to modify and test the SP-50 autopilot and 2 work hours per airplane to modify and test the SP-150 autopilot. Required parts will cost approximately \$522 for the SP-50 autopilot and \$620 for the SP-150 autopilot. Based on these figures, the cost impact of the modification and test is estimated to be \$582 (SP-50) or \$740 (SP-150) per airplane.

The overall cost to the affected fleet could range from \$104,004 to \$301,320.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.