

the fact that Model 747-400 series airplanes have the hydraulic system number 4 connected to the pressure sensitive side of the servo valve of the right inboard elevator PCP. The commenter contends that rerouting the hydraulic tubing, as required by paragraph (a) of the proposal (which references Boeing Alert Service Bulletin 747-27A2348, Revision 1, dated January 26, 1995, as the appropriate source of service information) will alleviate this problem. The commenter notes that Model 747-100, -200, -300, and SP series airplanes, which do not have the hydraulic system number 4 connected to the pressure sensitive side of the servo valve of the right inboard elevator PCP, have not experienced the uncommanded elevator deflection problem.

From this comment, the FAA infers that the commenter is requesting that paragraph (b) of the proposal be deleted. The FAA does not concur. The FAA has reviewed the pressure survey data for the number 3 and number 4 systems that was submitted by another commenter. The FAA finds that pressure fluctuations, which contribute to uncommanded elevator deflection, occur in hydraulic system number 3, as well as hydraulic system number 4. Therefore, the FAA finds that these data do not substantiate the commenter's suggestion that routing the hydraulic system number 3 to the sensitive side of the servo valve would preclude uncommanded elevator deflection.

One commenter states that paragraph (b) of the proposal, which is applicable to certain Model 747-100, -200, -300, and -400 series airplanes, references Parker Service Bulletin 327400-27-171 as the appropriate source of service information. The commenter further states that this service bulletin is not applicable to certain Model 747-100, -100B SUD, -200, -300, SR, and SP series airplanes, since the elevator power control packages specified in Parker Service Bulletin 327400-27-171 are not installed on these airplanes. The FAA's intent was to reference a service bulletin that addressed a modification for all affected airplane models. The FAA has reviewed and approved Parker Service Bulletin 93600-27-173, dated May 17, 1995. The modification procedures described in this service bulletin are identical to those described in Parker Service Bulletin 327400-27-171. The effectivity listing of Parker Service Bulletin 93600-27-173 contains elevator PCP's having part numbers (P/N) 93600-5005 through -5051 inclusive, which are installed on certain Model 747-100, -100B SUD, -200, -300, SR, and SP series airplanes. The

FAA has revised the applicability statement of the supplemental NPRM to include these additional P/N's. Additionally, the FAA has revised paragraph (b) of the supplemental NPRM to include this service bulletin as an additional source of service information.

One commenter requests that applicability of paragraph (b) of the proposal be limited to Model 747-100, -100B SUD, -200, -300, SR, and SP series airplanes ("classic") having cumulative line (C/L) 696 and subsequent and that the compliance time be extended from 3 years to 5 years for those airplanes. The commenter contends that the aft fuselage limit load can be exceeded if the residual pressure at the actuator pistons exceeds 800 pounds per square inch (psi)/cylinder. The commenter further contends that the probability of exceeding this is less than 1×10^{-5} . This pressure assumes the valve jammed at the most adverse position achievable from pilot inputs. The commenter states that the aft fuselage limit load can be exceeded for classic airplanes having C/L 001 through 695 inclusive, if the residual pressure at the actuator pistons exceeds 1,700 psi/cylinder. The commenter also states that the probability of exceeding the structural limit is less than 1×10^{-9} .

The FAA does not concur with the commenter's request to limit the applicability and extend the compliance time of paragraph (b) of the proposal. Following a review of the commenter's probability analysis, the FAA has determined that the commenter has based its analysis on a sampling that was much too small from which accurate statistical conclusions that would be representative of the fleet could be drawn. Further, the FAA finds that the flow rate and differential pressures used by this commenter were not substantiated to be the worst case scenario. Therefore, based on this flawed probability analysis, no change to the supplemental NPRM is warranted.

One commenter requests that Boeing Model 747-400 series airplanes be removed from the applicability of paragraph (b) of the proposal. The commenter states that if the valve jams, the resultant asymmetric elevator will not result in structural damage on these airplanes. The FAA does not concur. The FAA has determined that, although the asymmetric elevator may not damage Model 747-400 series airplanes, an unsafe condition (i.e., reduced controllability) still exists.

Two commenters request that the compliance time for paragraph (b) of the

proposal be extended from the proposed 3 years to 5 years. One commenter states that it does not have enough seed units to accomplish the modification at their own facilities within the proposed compliance time. The FAA does not concur. As stated above, the FAA considered the availability of required parts and the practical aspects of installing the required modification. In addition, the FAA finds that other maintenance facilities are available to operators that are unable to accomplish the modification at their own facilities. However, under paragraph (c) of the proposed rule, the FAA may approve requests for adjustments to the compliance time if data are submitted to substantiate that such an adjustment would provide an acceptable level of safety.

One commenter questions the FAA's estimate of the cost of required replacement parts for classic Model 747 series airplanes. The commenter states that the \$3,720 per airplane figure, presented in the cost impact information in the preamble to the notice, is too low. This commenter suggests that parts costs will be approximately \$7,440 per airplane (2 elevator power control packages at \$3,720 each). After considering the data presented by the commenter, the FAA concurs that the cost of required parts per airplane is higher than previously estimated; the economic impact information, below, has been revised to indicate this higher amount.

There are approximately 672 Model 747-100, -100B SUD, -200, -300, SR, and SP series airplanes, and 357 Model 747-400 series airplanes of the affected design in the worldwide fleet, a total of 1,029 airplanes.

The FAA estimates that 114 Model 747-100, -100B SUD, -200, -300, SR, and SP series airplanes of U.S. registry would be affected by this proposed AD, that it would take approximately 73 work hours per airplane to accomplish the proposed actions, and that the average labor rate is \$60 per work hour. Required parts would cost approximately \$7,440 per airplane. Based on these figures, the cost impact of the proposed AD on U.S. operators is estimated to be \$1,347,480, or \$11,820 per airplane.

The FAA estimates that 65 Model 747-400 series airplanes of U.S. registry would be affected by this proposed AD, that it would take approximately 111 work hours per airplane to accomplish the proposed actions, and that the average labor rate is \$60 per work hour. Required parts would cost approximately \$12,269 per airplane. Based on these figures, the cost impact