
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.1 (1) of CAR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Beechcraft 1900 Series Aeroplanes**AD/BEECH 1900/38****Elevator Control System****3/2003
TX**

Applicability: All Model 1900, 1900C, and 1900D aircraft.

- Requirement:**
1. Perform a control column sweep inspection to verify full elevator travel to the primary up and down stops. Accomplish this inspection in accordance with the Raytheon Aircraft Company 1900, 1900C, or 1900D maintenance manual, as applicable; using the following procedures:
 - a. Remove the aft fairing from the vertical stabiliser to gain visual access to surface stop bolts on the elevator control horn support.
 - b. Perform a full pitch-down to full pitch-up control column sweep. Visually ensure that the elevator horns contact the surface stop bolts for both the full pitch-down and full pitch-up control column positions.
 - c. Measure the length of both elevator down stop bolts from the crown of the bolt head to the face of the elevator lower stop bolt support.
 - (i) If the dimension of each stop bolt is equal to or less than 1.00 inch, the bolts are acceptable for the purposes of this inspection.
 - (ii) If the dimension of either stop bolt is greater than 1.00 inch, before further flight, accomplish the travel board inspection procedures as specified in Requirement 3.a. of this Directive. If it passes the procedure specified in Requirement 3.a., the bolt is acceptable even though it exceeds 1.00 inch.
 2. If the aircraft does not pass the control column sweep inspection or bolt length requirements of Requirements 1.b., 1.c. or 3.a. of this Directive:
 - a. Accomplish the elevator control rigging procedure in accordance with the applicable 1900, 1900C, or 1900D maintenance manual. Do not reinstall the aft fairing because access to the surface stop bolt is still necessary.
 - b. Perform a control column sweep inspection by accomplishing the actions in Requirements 1.b., 3.a., and 3.b. of this Directive. These actions are also referenced in Requirement 4 of this Directive.

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- c. When the aircraft passes the requirements of the above inspection, replace the aft fairing.
3. If the aircraft passes the inspection of Requirement 1 of this Directive, before further flight, replace the aft fairing; and accomplish Requirement 3.a. of this Directive within 100 hours time in service and any necessary actions before further flight after that as specified in Requirement 3.b. of this Directive:
 - a. Utilising the elevator travel boards, inspect to ensure that the surface stops on the control horn support allow the following:
 - (i) Up elevator travel of 20 degrees, +1 degree –0 degree; and,
 - (ii) Down elevator travel of 14 degrees, +1 degree –0 degree.
 - b. If the aircraft does not pass the inspection required by Requirement 3.a. of this Directive, before further flight, accomplish the elevator control system rigging procedures specified in Requirements 2.a., 2.b., and 3.a. of this Directive.
4. Perform a control column sweep inspection by accomplishing the actions of Requirements 1.a., 1.b., 2., 3.a., and 3.b. of this Directive. If the aft fairing is already removed, Requirement 1.a. action is not required.
5. Report the initial inspection and initial travel board inspection results to the Raytheon Aircraft Company.

Note: FAA Emergency AD 2003-03-18 refers.

- Compliance:
1. Initially inspect no later than 2 February 2003. If necessary, accomplish the travel board inspection before further flight after the Requirement 1.c.(ii) inspection.
 2. Before further flight after the applicable Requirement 1, 3, and 4 inspection.
 3. Replace the aft fairing before further flight after the applicable inspection required by Requirements 1, 3, and 4 of this Directive. Unless accomplished per Requirement 1.c.(ii) of this Directive, accomplish the travel board inspection within 100 hours time in service after the initial inspection required by Requirement 1 of this Directive. Accomplish any necessary re-rigging before further flight after the inspection required by this Directive.
 4. Before further flight after each time the elevator control system is re-rigged. Examples of items that require re-rigging, include, but are not limited to; changing the tension on the elevator primary control cables and replacing the elevator control system components such as cables, pulleys, push-pull tubes, and bellcranks.

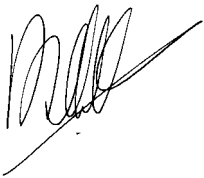
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5. Within 10 days after the initial Requirement 1 and 3.a. inspections.

This Airworthiness Directive becomes effective on 30 January 2003.

Background: Following a recent accident involving a Model 1900D aircraft, ground testing and a review of the rigging procedures of a Model 1900D aircraft reveals that the elevator control system could be mis-rigged to restrict elevator travel if current maintenance procedures are not properly followed. In these instances it may appear to the crew that they have full elevator control column movement. However, the elevator may not have full travel. Such restricted travel may remain undetected until the aircraft is operated in a loaded condition that requires full elevator authority to control the pitch. Models 1900 and 1900C aircraft incorporate the same elevator control system design and are affected by this condition.



David Alan Villiers
Delegate of the Civil Aviation Safety Authority

29 January 2003