

Twin Commander (Gulfstream/Rockwell/ Aerocommander 500, 600 and 700) Series Aeroplanes

AD/AC/42
Amdt 7

Wing Main Spar Lower Cap W.S. 24

8/93

Applicability: Models 500, 500A, 500B, 500S, 500U, 520, 560, 560A, 560E, 560F, 680, 680E, 680F, 680F(P), 680FL, 680FL(P), 680T, 680V, 680W, 681, and 720.

Requirement: 1. Serial numbers 1 to 1730 only

These aircraft were not fitted with a spar reinforcement when they left the factory. Unless already accomplished install a wing front spar external reinforcement kit in accordance with Aero Commander Service Change 81A or 81B.

2. All serial numbers

As required for the particular model and serial number, in accordance with Twin Commander SB 90C:

- a. modify the aircraft to improve access to W.S. 24;
- b. modify the spar radius to improve its fatigue quality;
- c. modify adjacent structure to eliminate interference; and
- d. inspect for cracks and corrosion in the spar cap.

As noted in Twin Commander SB 90C, aircraft that have complied with earlier revisions of SB 90 may require additional work.

Compliance: 1. Install the reinforcement kit before the issue of an Australian Certificate of Airworthiness.

2. If at 22 July 1993 the aircraft has not already been modified and inspected at W.S. 24, do so within 500 hours after 22 July 1993.

If at 22 July 1993 the aircraft has already been modified and inspected at W.S. 24, do the next inspection within 500 hours of the last one. In both cases re-inspect no less frequently than every:

- 500 hours for normal usage; or
- 200 hours for survey usage; or
- 100 hours for low level (less than 1000 feet AGL) survey usage.

Background: Wing station 24 has had a long history of fatigue cracking, including several fatal wing separations. Some form of spar reinforcement is necessary to lower stresses, to slow crack growth, to allow a practical inspection interval.

SCHEDULE OF AIRWORTHINESS DIRECTIVES

This latest amendment introduces Revision C to Service Bulletin 90. Revision C adds some additional models to the inspection program, and reduces the inspection interval for survey aircraft based on recent - including Australian - experience which indicates rapid crack growth under the severe flight loads experienced during such operations.

Another change is the elimination of the threshold for modification and inspection. Cracks have been found that probably started earlier. All aircraft must now be inspected regardless of hours flown.