

Gulfstream (Rockwell) 112 Series Aeroplanes

AD/AC-112/15

Rudder Spar

6/95

Applicability: Models 112 and 112B aircraft with serial numbers 13000 and 3 to 544, inclusive.
Models 112TC and 112TCA aircraft with serial numbers 13001 to 13309, inclusive.

Requirement: 1. Visually inspect the rudder spar near the upper hinge fitting for signs of cracking. Check for excessive movement by attempting to move the rudder tip fore and aft and left to right.

2 (a). Remove the rudder assembly from the aircraft as outlined in the Maintenance Manual, Section VII. Remove the rudder tip assembly and the upper hinge fitting. Inspect the forward face of the rudder spar web, bend radius, flanges and angle doublers P/N 44006-RE3, if installed, for cracks in the area of the upper hinge fitting attachment. Inspect using the dye penetrant method in accordance with Rockwell Service Letter SL-112-46 and CAO 108.10.

Cracks, including stop drilled cracks, which extend beyond installed angle doublers, P/N 44006-RE3, must be repaired by replacement of the rudder spar before further flight.

2 (b). Modify the rudder spar upper hinge attachment area by installing angle doublers P/N 44006-RE3 in accordance with Rockwell SL-112-46, Figure 1. The rudder spar must be free of cracks before modification.

Any spar with angle doublers installed shall be regarded as cracked unless it can be positively confirmed that the rudder spar was crack free when the angle doublers were installed.

Compliance: 1. Inspect in accordance with Requirement 1 within 10 hours time in service after 25 May 1995.

2. Initially inspect in accordance with Requirement 2(a) before 100 hours time in service after 25 May 1995. Re-inspect at intervals not to exceed 200 hours time in service until modified in accordance with Requirement 2(b).

Background: The Authority has received reports of cracking of the rudder spar on a model 114 in the region of the upper hinge fitting. Substantial cracking was found on one aircraft 1500 hours time in service after compliance with AD/ROCK-114/10 with no defects found. The rudder structure on the model 112 is of similar design. This Directive requires repeat inspections of the hinge fitting area until the rudder spar is modified to the later production standard.