

Sikorsky S-76 Series Helicopters

AD/S-76/29
Amdt 4

Vertical Pylon Forward Spar

3/94

Applicability: All Sikorsky S-76A helicopters without Sikorsky Modification Kit 76070-20086 (steel straps which reinforce the aluminium cap angles of the vertical pylon forward spar; referred to in Sikorsky Alert Service Bulletin No. 76-55-12).

Requirement: 1. Inspect for cracks in the cap angles, web, and web doubler of the vertical pylon forward spar, and in repairs and reinforcements near the tail rotor shaft cut-out in the vertical pylon forward spar, or near the fuselage shear deck, as follows:

- (a) Remove the tail rotor drive shaft fairings near the vertical pylon, exposing the shear deck and vertical pylon forward spar;
- (b) Using a clean cloth and a suitable solvent, clean all accessible areas of the spar around the cut-out for the tail rotor drive shaft;
- (c) Using a light, visually inspect the forward side of the spar for cracks near where the shear deck attaches to the spar web, and web doubler;
- (d) Using a light and mirror, and looking through the tail rotor drive shaft cut-out, visually inspect the aft side of the spar for cracks.

2. Retire from service the cap angles of the vertical pylon forward spar.

Note: FAA ADs 91-08-03 and 91-24-13 refer.

Compliance: 1. Inspect every 50 hours or less.
2. Retire before 1420 hours component time in service.

This amendment is effective from 3 March 1994.

Background: The vertical pylon forward spar has a long history of cracking. This directive allows operation for a limited period, with frequent inspections, but eventually the cap angles must be replaced or reinforced before the inspections become unreliable in the face of widespread multiple site fatigue damage. For convenience, the requirements of AD/S76/56 are now included in this directive. The main change introduced in Amendment 4 is the exemption of helicopters fitted with Mod Kit 76070-20086, since Sikorsky's analysis suggests that the steel spar straps, and the doubler which joins the web and shear deck, should impart a long fatigue life.

The earlier mod kits in Sikorsky Customer Service Notice No. 76-141 have proved unsuccessful, so are not exempt.