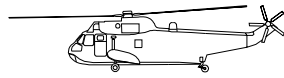


Belcher Bits No. BB29: H-21 Metal blades 1/48

Belcher
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Kit blade



Metal blade

Background

Wooden blades? Not as low tech as it may sound these days. The early helicopters nearly all had wooden blades which were more durable than metal blades. Helicopters have been known as 'flying fatigue machines', the many cyclic reversals seen by each blade being particularly damaging. Even so, later in service most H-21s had their wooden blades replaced by metal which was less susceptible to rot and weather.

However, the Special Hobby kit of the H-21 helicopter missed the dimensions of the blade. Even early wooden blades were 18" chord width, the kit blades are only 11". These resin replacements are made to the correct chord width.

Installation

A small problem is the white metal rotor hub. The kit parts are very nice. Unfortunately, the distance from the center to the blade hub mounting bolts measures out to 36", but the real aircraft was only 29.8". This means the rotor head assembly will be about 0.25" bigger in diameter than it should be. When fitting the metal blades, cut the ends of the white metal parts just outboard of the mounting bolt holes and attach the blades. The metal blade has the leading edge spar extension moulded in place. I would recommend that you drill out this spar and insert a short length of brass rod to reinforce the joint.

One final point to consider. On the real machine, the blades had a bit of a twist built in. With the tips flat, the root had about 5 degrees of attack (up) angle, this twist gradually diminishing to the tip. You could try to represent this by warming the resin parts and gently twisting them, but frankly, I wouldn't bother. First, it would be difficult to do this evenly and consistently. Also, modelling is an art form and correctly twisted blades will simply look funny when built.

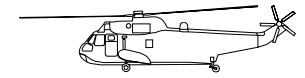
References

1. Various structural repair manuals Vertol H-21A/B/C, H44

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