



# H ELI-PAD

by John Heaton

**WE** FOCUS our attention this month on the collective pitch version of the Schluter *Heliboy* sports/training helicopter. Based on a side framed layout similar to the *Baron* or *Falcon*, the *Heliboy* is notable in that the engine head faces forwards rather than the more usual backward direction. This makes for better C of G positioning without resorting to ballast but does make glowplug access more difficult. The tail drive is taken from the top of the nylon drive cog and looks more robust than most. Main shaft is an extremely stout 12mm affair which, being short as well, is practically unbendable.

Tail gearbox is a perfectly conventional

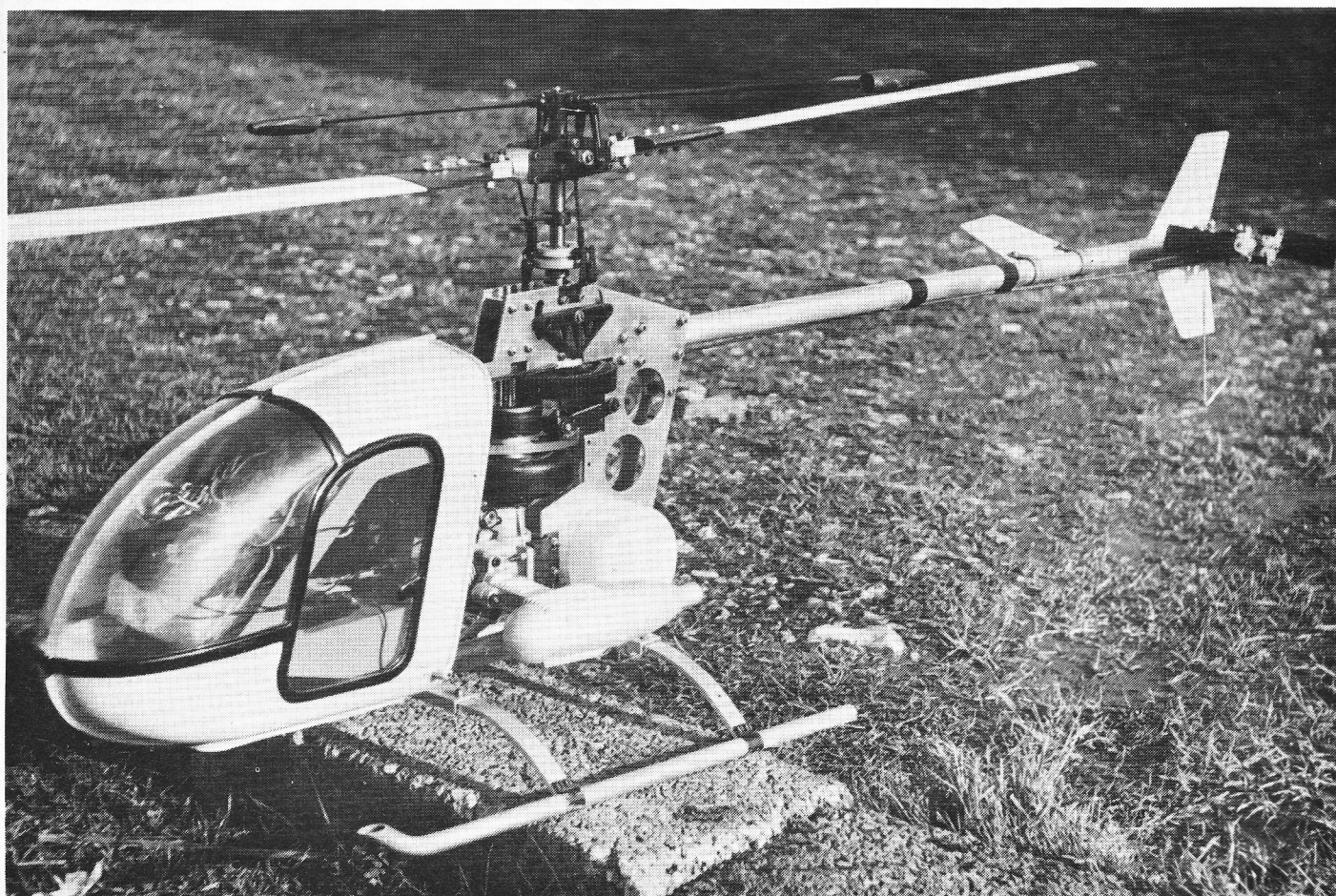
right-angle transmission unit with ball bearings and the tail drive shaft is thick sectioned with a flat on each end for the securing grub screws to bite on. Tail blades are superb moulded plastic items and look identical to the *Helimax* items, as do the blade holders. The canopy is provided as two halves in clear plastic, which go together easily and have an excellent fit. Thin plywood servo trays are supplied and create no problems. The fuel tank fits in a large hole provided in the side frames and must be at least double the capacity of any other model.

And so to the rotor head, the very heart of a model helicopter. Construction is simple and

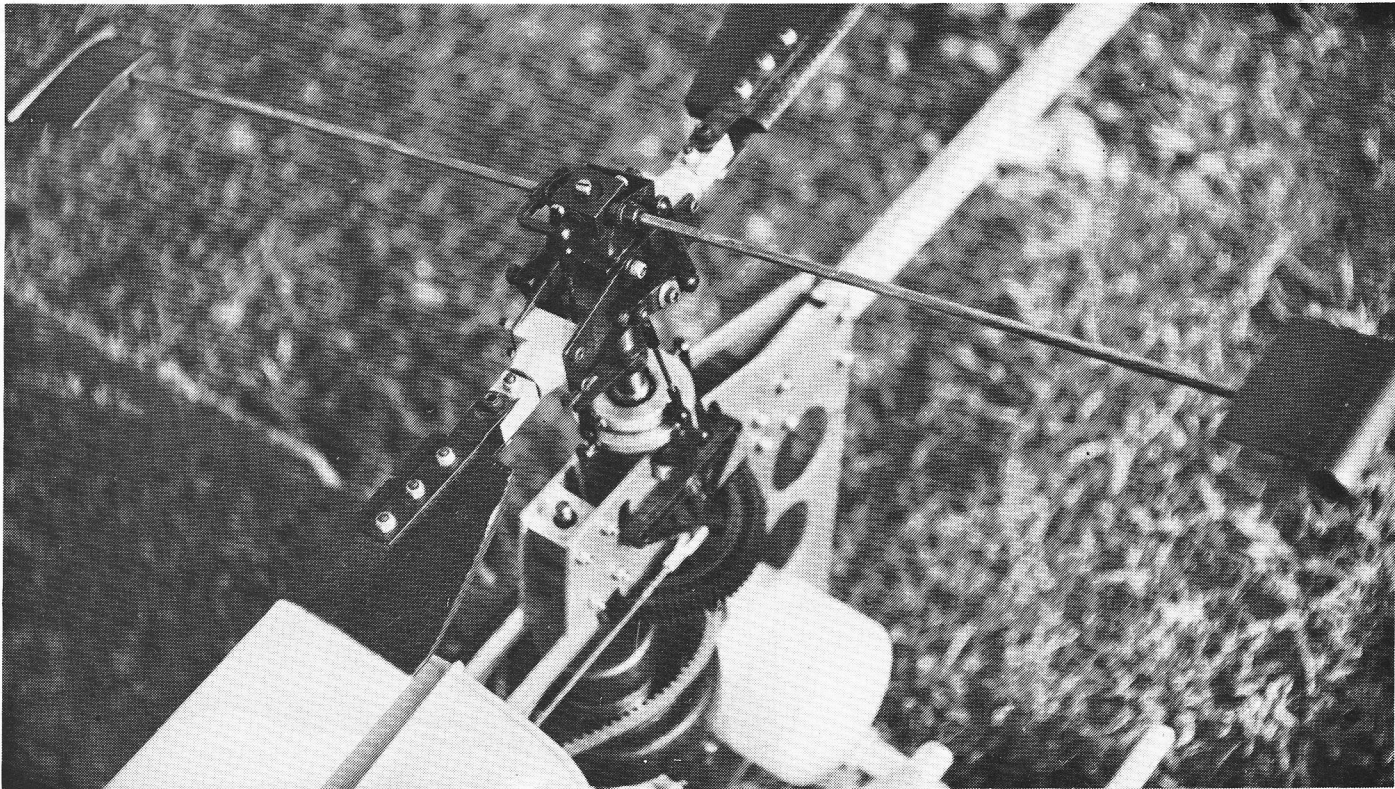
tough and consists entirely of machined parts, i.e. no castings. It would be difficult to visualise having to renew anything as any damaged parts could probably be straightened out. Teeter is restricted by two full width rubber tubes and is so stiff that as it comes it is virtually a rigid motor.

Although the *Heliboy* is designed for a 60 size engine, I elected to use an OS50 and right angle adapter with standard aero silencer. You can use a belt or cone start with

A thoroughly practical and functional layout seen in the collective *Heliboy* by Schluter with a simple cabin, having ply based servo mountings.







Heliboy collective head with strip blade holders and dual toothface gear for tail drive. The clever collective pitch bellcrank can be seen outside the side frame.

this model, and a belt was chosen in preference to a starter extension. I fitted a JR four function radio, the servo reversing making installation easy. Mechanical tail rotor and collective mixing is provided and the model was set up more or less as instructions.

### Flying

First hops indicated two things; one, rpm was much too high and, two, response was far too jumpy, in fact a similar feel to the *Helimax* as standard. I guess you either like or dislike this aerobatic feel (or can or cannot cope!) Anyway, if you don't like the screaming, the cure is to increase the main blades' pitch and fit heavier paddles. The next flight was totally different, much steadier but with a slightly lurchy action bordering on an oscillation. This is simply caused by having the teeter jammed solid with stiff damping, which is fine for a high rpm and upside down flying, etc., but for normal scale-like flying is a no go. I just removed the full width teeter damping rubbers and cut about 80% of each one off to obtain some teeter, not as much as a KKK or 212 but about the same as a Kalt or Hirobo.

The *Heliboy* was now flying extremely well, having a very firm feel, good turn of speed and fairly high manoeuvrability. My final adjustments were to remove the rudder mixing, which can only be right for one airspeed and gives you unwanted yaw at other speeds, and slip on a set of lifting section blades, purely to increase efficiency by about 15% and reduce the noise and fuel consumption a similar amount.

I began to enjoy flying the *Heliboy* and practised the schedules. The tail power is good and right and left pirouettes can be made in stiff breezes. The general feel is very firm and stability is such that you can trim the model carefully and place the transmitter on the ground.

I must take this opportunity to praise Mr. Schluter for his clutch, which is quite the best I have encountered. It is simply a one piece metal shoe with bent out ears (same

shape as the plastic Hirobo one) with cork lined drum. Firm, powerful take up just off tickover, yet complete disengagement at tickover; and by repute a long lasting unit as well. It is a real pleasure to be able to clearly see the fuel level in the huge fuel tank as the model is in flight, and each flight lasts well over half an hour.

Although *Heliboy*s have a reputation for being easy to damage, I think this is due to the way they are usually set up as they are actually very rugged. Let's face it, if you fit the model with a .60 engine running at 17,000rpm you have a lot of self-destruct power, but if you detune the system to 1hp and 10,000rpm things are a lot easier going.

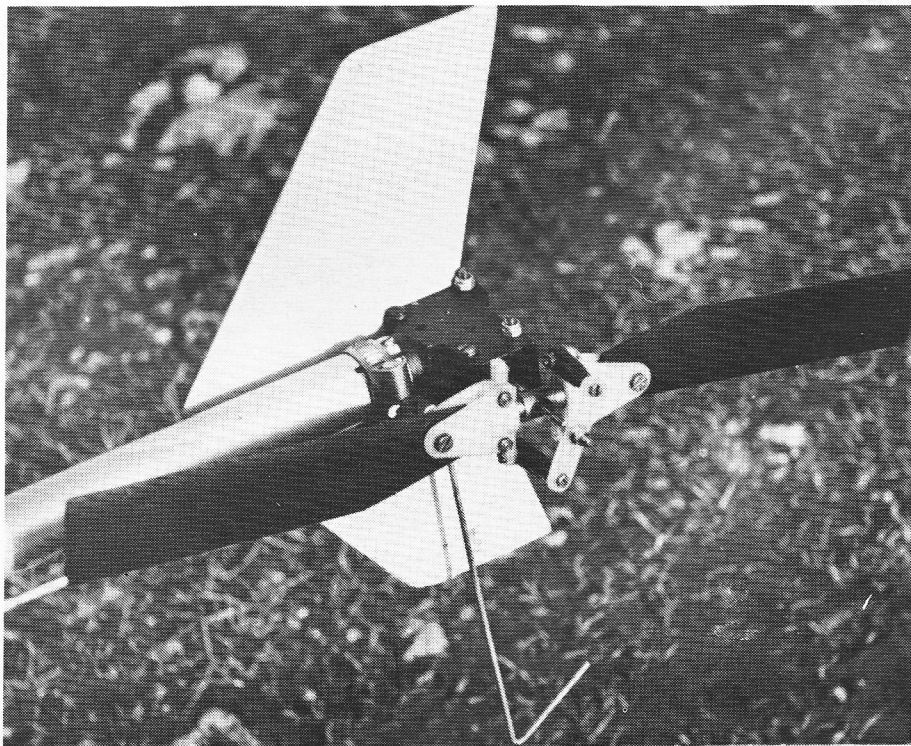
This was proved when I had quite a hard crash due to overcooking an extremely low fast pylon type turn and the sum total of

damage was, would you believe, broken blades and bent undercarriage.

Detuned in the manner described the model is amazingly versatile in as much that flight pattern is extremely smooth and predictable and would give a good performance for top line competitors, whilst at the same time is it extremely easy to fly for a beginner.

### Falcon tip

I had this tip from Derek Christopher, a local flier of *Falcons*. On refurbishing his oldest, he found that the plywood formers holding the tail drive guide tube in the boom, had disintegrated. He fitted in their place the rubber bungs from old fuel tanks which are just the right size to be tight on the brass tube and in the boom.



Tail rotor detail, with stabiliser retained by a Jubilee clip.