

Clipped Wing Cub 48F

MAURICE ASHBY JOINS THE CUB CLUB WITH
WORLD MODELS' SEMI-SCALE AEROBAT

Traditionally a modeller's nightmare, the windscreen and side windows are an easy fix, using a combination of self-tapping screws and epoxy.

At 63" span this particular Cub sits somewhere between 1/5 and 1/6 scale; a good, practical size that doesn't demand an estate car for transportation – an Astra will do!

Although more semi-scale than scale, she certainly looks the part.

Quite a few of my Maidstone MFC clubmates have recently been flying Piper Cub models of various sizes and from numerous manufacturers. They have, however, been mostly ARTFs with one notable exception – built, I believe, from a Sig kit at 1/4-scale (105" span). As a matter of fact, I had the honour of test flying this particular model and was very impressed with the way it flew and its general handling. It certainly left me with the desire for something similar.

As I have stated in the past, I'm not a large model fan, so a 1/4-scale anything would be out of the question, certainly in terms of storage and transportation. So, looking through the adverts in RCM&E, I spotted a nice 63" span clipped wing ARTF by World Models – ideal, in that it would fit in my Astra in one piece. Better still, not only would this example be able to perform those lovely Cub fly-bys, being the clipped wing version I reasoned that I'd also be able to throw it about a bit. So, I called your editor Graham, and he agreed that I could do the review (he's a good lad).

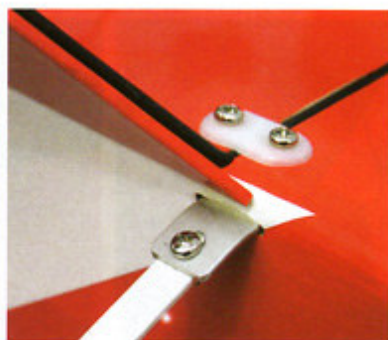
WEEKEND PROJECT

Before we make a start, I thought a few words on the full-size wouldn't go amiss. The first conversion of the J-3 Cub (done thirty-odd years ago) consisted of nothing more than shortening the wings by 40 1/2 inches on each side. This wasn't done by hacking away at the tips, as most people believe. Rather, the inboard forty were sawn off, the attachment fitting holes redrilled and wings refitted. A few other little jobs had to be done, such as installing a vertical



'U' shaped stiffener that was bolted to the spars to keep things at the right angle and reduce the loads on strut fittings, etc.

The supposed purpose of this conversion was to take a little of the Cub out of the Cub, so to speak. It cut down the float on landing, made it less of a cork in rough air, increased the strength (due to reduced flexibility), and increased the roll rate, because the wings were shorter. These last two points caught everyone's attention. A couple of guys with a weekend to spare could modify their J-3 and end up with a bargain basement aerobat. Whilst the originals were



With the model inverted you can clearly see the undercarriage saddle clamp (top) and the fuselage-located strut mount.

Whilst the fittings (horns, clevises, nuts and bolts, etc.) are always of good quality, the equally respectable wheels didn't seem quite right for this model, though more on that later. Furthermore, the instruction manual could have been a lot better - it's printed in black and white with just sketch diagrams, rather than written instructions. For anyone who has built a few ARTFs it's not too much of a problem, but a first-timer

Airborne and away, the Cub immediately impressed with her neutral handling qualities.

still 65hp, most flying today have 85hp engines with C-90s and 100hp 0-200s being quite common. Furthermore, a goodly number of real hot rods have 150 and 180 Lycomings shoe-horned up front.

TO WORK...

Right, let's get back to the model. As I mentioned, it's 63" span, making it, in my estimation, somewhere between $\frac{1}{5}$ and $\frac{1}{6}$ -scale. Then again, this is not an out-and-out scale model - I would say semi-scale - but it certainly looks the part. Two colour schemes are available (blue / white or red / white) in the popular sunburst pattern. I went for the red.

On opening the box I found the contents nicely arranged in polythene bags, as is usual with ARTF models at the moment. The covering on the wings, fuselage and tailplane had been nicely applied and didn't require any sags or wrinkles to be ironed out. Equally, the cowling is a very nice fibreglass moulding that's packed alongside a clear plastic version. This latter item is included as a dummy and is used to establish the perfect engine fit before transferring the various apertures to the finished product.



wouldn't be impressed. To be honest, I've seen some lovely coloured instruction manuals on much cheaper ARTFs.

The aforementioned manual consists of 11 pages. Page 1 lists all the symbols used throughout the booklet, the adhesives you'll need (I used five-minute epoxy throughout - except when joining the wing halves, where I employed a 30-minute variety), where to cut, size of drills required, etc. Page 2 is the parts list and page 3 through to page 11 show a total of 24 diagrams that take you through all the stages of construction. What I'll do, then, is simply highlight the various stages for you, making comment on a particular process only where I feel some clarification or feedback is necessary. If nothing's written, assume all is well!

There's a choice of colour schemes, either blue and white or the red and white of the review example. What's more, you get a nice, taut covering job, too.





Tail feathers are unremarkable in assembly, simply epoxy in place and keep 'em square.

The steerable tail wheel pays dividends with good ground handling.

The ailerons are driven by individual servos, offering maximum power and precision. World Models thoughtfully include a length of fishing line within each wing panel for drawing the servo lead through.

You'll be pleased to hear that the wing bolts lined up okay with their respective captive nuts, though the strut fixing holes needed easing to avoid pushing the wing out of line.



fairly straightforward. Having said that the wheels looked a bit too big, so I fitted my own (I'm a fussy so-and-so).

Canopy (14)

- Good news here! The front screen is attached with self tappers. For the side windows, I used epoxy.

Cowling (15)

- This is where the transparent plastic guide version comes in

Main wing (diagrams 1 - 4)

- Aileron installation. No comment here as both are pre-hinged.
- Aileron servo installation in each wing half. No comment, but good to know there's a length of fishing line in each panel to allow you to pull the servo lead and plug through to the centre.
- Aileron horns and pushrod / clevis fitting - no comment.
- Joining the wing halves using the supplied aluminium tube - 30-minute epoxy necessary here!

Wing struts (diagram 5)

- This is where I had a slight problem. The sketch gives the impression that the fixing screws are self tappers. They are, in fact, bolts that thread into nuts located on the wing. The measurements for their location are accurate, but the bolts supplied were too short for the leading edge fixing. As a result I had to fit longer ones that, fortunately, I had to hand.

Vertical fin and stabiliser (6)

- Each component fits into a slot that is cut in fuselage rear. Use epoxy and check the alignment.

Steerable tail wheel fixing (7)

- Straightforward - no problems encountered.



Low pass for the camera - doesn't she look just great?

Engine mount (8 & 9)

- The bearers are in two pieces and are adjustable for the width of your chosen engine. The engine bulkhead has captive nuts pre-fitted. Incidentally, the measurement for the position of the engine from the firewall was found to be accurate.

Fuel tank (10)

- A square tank (supplied) is slipped through a cut-out in the second former whilst its front end locates in the firewall.

Landing gear (11 to 13)

- The drawing in the manual looks complicated, but in reality it's



handy. Simply cut to fit your engine and use as a template on the fibreglass item.

Radio and servo fitting (16 to 18)

- Standard procedure throughout using the pre-fitted servo tray. As a point of interest I found that the piece of sponge supplied to house the receiver and battery fitted in very nicely behind the tank.

Pilot (19)

- Often included so that the manufacturer can tick a box in the specification list, I rarely see an ARTF pilot that looks right for the model in either appearance or size. Sadly, this one was no different and looked a bit out of place. I've recently purchased a decent latex one and it should really set the model off nicely.



Linkages (20)

- Standard procedure - no comments here.

Wing and struts (21)

- Whilst the wing bolts lined up perfectly with their captive nuts, I had to ease the fixing holes in the struts very slightly to avoid pushing the wing out of line.

Wing setting (22)

- This relates to the diagram dealing with measurement, where 'A' on one side should equal 'A' on the other, etc. Very difficult to alter, since the wing is already pre-drilled with captive nuts fitted. Mine was okay though... at least, near enough for this model!

Control throws (23)

- These were adjusted as detailed, although I did give the ailerons a bit more movement.

C of G (24)

- The ideal position is quoted as 70mm behind the leading edge, which puts it about 1/4" in front of the wing spar. Mine was spot on.



As always, there was some delay waiting for a suitable day to fly, but luckily a bright but overcast Sunday eventually arrived, upon which the ed. gave the 'clear for photography' nod. So, how does it fly? Very nicely indeed, thank you. But I must admit to being a little apprehensive when test flying anything scale. Everyone was saying it will fly like a big ol' trainer - not so. In the past I've seen Cubs drop a wing on take-off and cartwheel. Then there's the narrow track undercart, and again I've seen Cubs careering around all over the place, anything but straight.

look right, but otherwise, she's a peach. After a few low passes for the camera I decided to grab some height and try a loop and a roll. These look very scale like, in fact once I get used to flying her and increase the throws here and there, I think there's a lot of potential. Landing was a doddle and nowhere near as floaty as a big full-span Cub - this one's a bit more predictable, thankfully. However, be sure to keep her into wind, as that narrow undercart will quickly bite and have her on a wing tip before you know it.

Well, there you have it. Nice one World Models. If I were to moan about anything, it would be the wheels and dummy engine, which I would suggest are the same items that are used on the company's other (larger) Cub designs, hence the variation of scales. That said, I'm sure this model is going to be one of my favourites along with the superb World Models Midget Mustang I reviewed a while back.

This Cub cries out for a four-stroke and Maurice didn't disappoint, electing to fit an SC 52.

The wheels shown here aren't those supplied - Maurice considered them to be a bit big so swapped them for a pair of smaller diameter examples.

Modelled extensively over the years, the Cub is no stranger to R/C flightlines. Most latter day examples are of ARTF origin, a trend followed here by World Models.



That about wraps it up assembly wise. Before we fly her I'll just run through the gear that I used in my particular model. The engine is an S.C. 52 four-stroke with a 12 x 5" Graupner prop. The fuel I use is Southern Modelcraft consisting of 15% synthetic oil, 2% castor and 5% nitromethane. As for radio gear? Hitec Optic 6 computer with dual conversion receiver. I also used a 600mAh 4.8V battery pack arranged with the cells side-by-side. A Hitec HS101 servo was used on the throttle, while Hitec HS322 servos were used on elevator and rudder. Finally, two Hitec HS322 servos were used on the ailerons.

Anyway, having run three tankfuls of fuel through the engine, it was sounding pretty reliable. Graham was ready with the camera, so I lined her up into the wind, held in some up elevator, gradually increased throttle, and let the elevator off after a few feet. Then, with maximum concentration on rudder, I kept her straight into wind, mindful of the fact that any serious deviation would be my signal to abort. As it was, she was airborne in no time. When I got to a reasonable height and turned, I realised what a nice flying model I'd got here. As I expected, turns need a little rudder fed in to lift the tail and make them

Datafile

Name:	Clipped Wing Cub 48F
Aircraft type:	Semi-scale light aerobat
Manufactured by:	World Models
UK distributor:	Steve Webb Models Tel. 01928 735225 Web: www.stevewebb.co.uk
RRP:	£119.99
Wingspan:	1600mm (63")
Fuselage length:	1200mm (47")
All-up weight:	2500g (5.5 lb)
Wing area:	40sq. dm. (620sq. in.)
Wing loading:	20.4oz / sq. ft.
Control functions:	Aileron, elevator, throttle, rudder (five servos)
Rec'd engine:	0.40cu. in. two-stroke 0.48cu. in. four-stroke