

PA-18 SUPER CUB

TESTING, TESTING | **Multi-Purpose Sportster**

Multi-purpose bush style sportsters have been hugely popular over the last few of years, David Ashby gets all 'Bear Grills' with the latest from FMS

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The scheme is based on a full-size PA-18 based in Alaska. No surprise there!



She's reasonably manoeuvrable but, better still, instills confidence, especially low down.



The LED landing lights are better seen on overcast days. I've seen brighter.



Whilst the 6.25" tundra wheels are solid, the sprung u/c soaks up the bumps nicely.

The folk at FMS seem to like Cubs at the moment, indeed hot on the heels of the 1.4m span J3, reviewed a couple of issues ago, comes this 1.7m (67") span PA-18 Super Cub. It's an EPO foam creation with factory-fitted servos and power system. The airframe sections go together easily and the manual covers most areas well. Set aside 20 minutes and you're done. The parts and fittings are nicely moulded and the overall impression is one of quality and attention to detail. In particular, the undercarriage will grab your attention thanks to those CNC blocks, cushioning springs and solid 6.25" tundra tyres.

It's clear that a decision was taken to beef up the tail feathers which have a flat section and are 6mm deep. The tailplane, meanwhile, is supported by a full length spar. Mind you, this means there's no need for the bracing struts used by the full-size machine.

With ailerons, flaps and lights, connecting the wing has been made easier thanks to integrated plugs—a welcome facility—whilst the three

clean-fitting hex' bolts that retain it are easily negotiated when the time comes to assemble or take it apart. For my part, however, the model slips into my estate car in one piece.

Servo pushrods use ball links at the six 17g servos, the control surface horns are retained with back plates, rudder and elevator servos live down at the tail for good, direct connection, and all this means the linkages are tight and slop-free. The ailerons come with a factory-added Y-lead, so just one channel is required here with no mixing. That's fine and the model flies happily this way although some may prefer to hook up separate aileron channels at the receiver to maximise radio programming flexibility. Remember, if you're sticking with the single channel then the ailerons must be independently adjusted at the servo arm and those on my model each required a tweak to centre them.

The canopy is retained with a good spring latch and there's plenty of room inside for both the receiver and a LiPo within the capacity range outlined (2200

—2600mAh 4S), or a little larger still. The power system uses a 3541-size outrunner, 45A ESC and 12 x 7.5" prop. My wattmeter's peak static reading came in at 600W and 40A, so around 120W per lb. That's based on a 2200mAh 35C 4S LiPo. If you're aiming to use, perhaps, a 3200mAh battery then the extra few grams shouldn't substantially affect the model's performance.

All good multi-purpose models come with floats these days and so does this; two 700mm boots, the port float housing a rudder and rudder servo with a lead—secured to the float struts with cable ties—running to a small fuselage aperture where a pre-fitted connector awaits. Adding the floats is just a case of removing the u/c retaining clamps and dropping in the float struts before replacing the clamps.

PRE-FLIGHT

High and low control surface deflections are prescribed although they're not that far apart and experienced pilots can happily jump in at the deep end. FMS rarely mentions

exponential as many, if not most of its models don't need it and, indeed, that's the case here. Granted, it's down to personal preference, so just dial it in if you feel it necessary.

The model has flaps that'll drop down to 80-degrees or so and, again, elevator compensation isn't mentioned in the manual. Here, though, something is needed as the nose will pitch up as flaps are deployed and quite violently if the model is moving too fast. I tend to have flaps operated by a transmitter side slider for models like this with, in this case, a down-elevator mix negating the pitch change.

There's plenty of room to shift packs around and hit the C of G spot (80—85mm from the root leading edge). My model weighed 100g over the 2100g

that FMS states, and that's with a 4S 2200mAh pack, so don't be surprised if larger packs push the AUW further still.

FLIGHT OF THE FOAMIE

There's a modest tendency to pull to the left on take-off, although there's plenty of power, so—and especially in a breeze—the run can be very short. Drop the flaps a little, it's shorter still, and you're in STOL territory. Personally I quite like a long, lazy take-off run followed by a near vertical

rise before levelling out, great fun. Don't be lulled into a false sense of security by the words STOL, or the presence of flaps, as a stall response is there for the finding although, when it happens, you'll notice only a gentle wing drop from which it's easy to recover. Go looking and you'll find it but if you keep the Cub moving you won't have a problem.

Even at high rates the roll response is a bit lethargic, but I've no complaints for that, surely, is what a Cub is all about?



The PA-18 is very definitely an all-season flyer.

Relaxation is the name of the game with a machine like this – lazy aerobatics, especially wing-overs and stall turns are the order of the day. Also slow, low, walking-pace passes with a bit of flap, the odd touch 'n' go, that sort of thing. Inverted flight feels quite neutral and the elevator quite sensitive too, so a little expo' or even some experimentation with a more rearward C of G could soften that. Point rolls are straightforward and, thanks to that powerful elevator, loops pretty tight.

In model form some Cubs have a reputation for adverse yaw, so require help through turns with rudder, aileron differential or rudder mixed to ailerons at the Tx. I've flown this model the way it came, using one aileron channel, and all's been well, so independent aileron channels aren't a necessity.

I've timed flights over cold and frozen winter months and budget for 6 minutes from the 2200mAh LiPos and 7 minutes from the 2600mAh packs. Granted, I like to land with a good 20% remaining but I'm sure the packs will have more to give when things turn warmer.

With or without flaps, landing couldn't be simpler and the tundra tyres cope with anything my grass flying field serves up. I've not tried the floats yet but it's difficult to envisage any problems in this respect.

ONWARDS AND UPWARDS

An obvious attention to quality is what endears the FMS brand to flyers. Since



The strutter looks robust and is a bit more than just cosmetic.



Beautifully formed, the u/c comes away quickly when the floats need to go on.



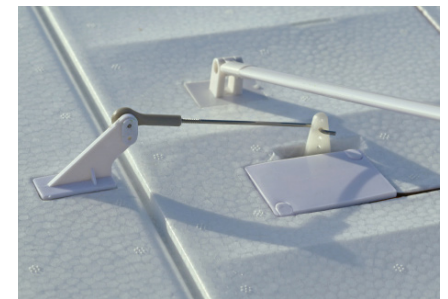
In all the years I've been flying FMS models I've never had a servo, a motor or an ESC fail.



You can't go wrong with solid horns and ball-link clevises.



Slow, low easy passes are the name of the game. She's definitely a chillax aeroplane. Incidentally, flaps aren't essential for landing or take-off but do remember to mix in some elevator compensation (see text).



Above left: The FMS name usually signals a pretty 'sorted' model and, once again, that's the case here. Top right: All horns have a secure backplate on the other side of the control surface. Above right: The smattering of scale details are a nice touch.

DATAFILE

Name:	PA-18 Super Cub
Model type	Ready-to-fly, multi-purpose sportster
Manufactured by:	FMS
UK Distributor:	CML Distribution – www.cmldistribution.co.uk
RRP:	£239.99
Wingspan:	1700mm (66.9")
Fuselage length:	1136mm (44.7")
All-up weight:	2200g (77oz)
Wing area:	651sq.in.
Wing loading:	17oz / sq.ft.
Power system:	3541 750KV outrunner; 45A ESC; 12 x 7.5" prop; 4S 2200 – 2600mAh LiPo
Required to fly:	Receiver and LiPo battery
Connector fitted:	XT60
Supplied with	6.25" balloon tyres; floats; float struts

the 1.4m span P-51 released in 2010 – at the time the largest foamy we'd seen and now in its 8th incarnation – every release seems to be a reflection of a desire to act on the feedback received. What's inside the model is important, of course, and of the half-dozen or so FMS releases I've tested over the last few years, not a single servo, ESC or motor has stopped or coughed, and I don't expect that to change now this Cub is flying.

If you care to push me hard for a niggly then, with some thought, I'd say that it would have been nice to see an on-board glider tow release or a space to install one, or perhaps the clever fitting that FMS has added to its Kingfisher, which uses the wing spar to retain the tow line. Anyway, that seems a bit churlish when a model is so good. There's a lot here for your money and what you get is both versatile and fun. ✈

It would have been good to see a tow release, or provision to add one.

