

# Scale Soaring UK

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## "Pat Teakle Models" ASW 20BL

<https://scalesoaring.co.uk/phpBB3/viewtopic.php?f=12&t=66>

### Re: "Pat Teakle Models" ASW 20BL

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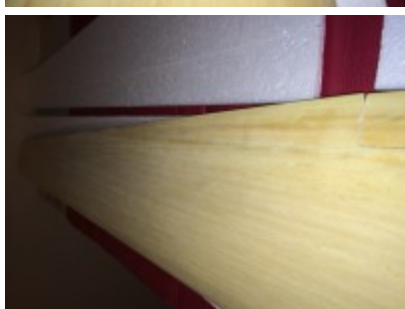
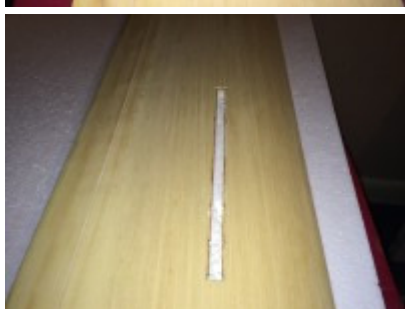
by **Martin Church**

Posted: **21 Dec 2015, 17:47**

Cheers for the advice Brian.

The wing joiners are actually finished on the vacuum bagged kits. For the extra £100 I think it was a worthwhile investment.

All the servo wells are pre cut & have ply infills readying to attach the servo covers etc (see photo)the airbrake slot is also cut & ply lined. All the wing joiners are fitted & the blade & brass box is supplied in with the cost of the kit.





## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **21 Dec 2015, 17:24**

Hi Martin, thanks for the compliments. There is no need to go to the lengths that I went to in order to get a nice "20". Remember that I set out to see how far you could push the kit to get a scale looking aircraft. A standard construction and finish will give you a good flying model which looks great at 50 feet up.

I would recommend using double wing joiners as it gives a very stiff wing (ask Steve Fraquet). I would also strongly recommend setting the CG back around 33 % MAC for good performance and handling.

Good luck with your build!

Brian. 😊



### Re: "Pat Teakle Models" ASW 20BL

by **Martin Church**

Posted: **20 Dec 2015, 22:04**

Excellent thread Brian, shame the beginning of it was left on the old site.

I've just received my ASW 20 vac bagged wing version. I'm used to plugging everything together in moulded form, fitting gear & throwing it off Westbury White horse or whitesheet. Talk about a fish out of water. This may go either way.

Is there any info out there on the web regarding a fully detailed 3 view etc?

Thanks

Martin

### Re: "Pat Teakle Models" ASW 20BL

by **Antonia**

Posted: **22 Jun 2015, 08:25**

Well done on the maiden Brian, she looks great, and many thanks to Mrs S getting you up the hill....

Just got to you down to MW now, hope to see you soon.

Antonia

### Re: "Pat Teakle Models" ASW 20BL

by **Geoff Pearce**

Posted: **21 Jun 2015, 18:55**

Well done again Brian, is it set up aero tow?

See you at MW?

Geoff

### Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **21 Jun 2015, 18:26**

Thanks Guys.

Robbie - I have been in that camp since my pal Andy took me by the hand (scruff of the neck actually ) and showed me the error of my youthful ways. My glass thermal soarers often trimmed out at 39% to 42% MAC (just positively stable) and my racing machines were often further back than that (neutral stability - scary quick).

Brian. 😊

## Re: "Pat Teakle Models" ASW 20BL

by **RobbieB**

Posted: **21 Jun 2015, 17:48**

Well done Brian - another convert to the rearward CG camp.

## Re: "Pat Teakle Models" ASW 20BL

by **ChrisGordon**

Posted: **21 Jun 2015, 17:07**

Great job Brian. Well done that man.

I recall that Pat used to like forward cg's but they are a hairy chested bunch on the Peak and used to fly in all weathers.

## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **21 Jun 2015, 13:40**

At long last I have managed to get myself up the hill (with a little help from my good lady wife) to maiden the ASW20.

For the first flight the CG was set at 25% of the MAC - the instructions give a location that works out at 22% MAC!!! The "20" dived away into the 15mph breeze and looked as though it was trying to plant itself in the valley floor. Full up trim + had it flying up and down the ridge but it was handling rather like a big pudding. However roll and yaw controls were just fine with no trim changes. Landing was fairly easy but there was a distinct lack of elevator authority in this trim. Over the next three flights weight was progressively removed from the nose bringing the CG back to 27.5%, 30% and 33% in turn. All of the up trim was gradually removed and the aircraft handled better and better with each change. She now felt lovely and buoyant and there was considerably better control response all round. (Why in the Lords name do manufacturers suggest super-conservative CG locations for their models when all it does is make them very difficult to fly???)

So there we are, the ASW20 BL is now complete and flown. I will continue to refine the trimming and the setup over the next few flights but I don't anticipate any problems. JOB DONE!!!!

Brian. 😊😊😊😊😊



Who's a happy boy then?



Everything firmly clenched and off we go.



Yeh, she flies!!



I told you she would fly.



ASW20 coming home to Daddy (on Daddies Day!)

### Re: "Pat Teakle Models" ASW 20BL

by **Peter Balcombe**

Posted: **11 Jun 2015, 15:01**

Many thanks Brian,

That is a similar system to that recommended by a friend, although they use a more visible access point just behind the canopy.

Peter

### Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **11 Jun 2015, 12:37**

I have a substantial steel peg at the front of the canopy frame which locates into a reinforced hole in the fuselage moulding. At the rear I have arranged for a PTFE tube to run from just under the trailing edge of the wing root moulding up to the rear of the canopy. This tube contains a length of bowden cable which projects into a tube in the canopy frame when engaged. The other end of the cable has a small brass ball soldered on so that it can be slid back easily to open the canopy. This setup is solid when engaged, easy to open, and pretty much invisible to the casual observer.

Brian. 😊

### Re: "Pat Teakle Models" ASW 20BL

by **Peter Balcombe**

Posted: **11 Jun 2015, 08:10**

Brian,

After having had the canopy eject during aerotow on my original PT ASW20 (retained by front

peg & large elastic band at rear) yet again at the GS Cheddar event last Sunday, I need to revise the canopy retention to a more secure alternative.

What method have you used on your canopy?

Thanks, Peter

### Re: "Pat Teakle Models" ASW 20BL

by **Simon WS**

Posted: **06 Jun 2015, 07:24**

You have certainly done a lovely job on her Brian.

The new PT website should remove those AWFUL pictures they currently have and use yours instead!

Simon

### Re: "Pat Teakle Models" ASW 20BL

by **Peter Balcombe**

Posted: **05 Jun 2015, 23:26**

I think that mine is 12lbs AUW (no retract fitted).

Mine has glassed wings.

### Re: "Pat Teakle Models" ASW 20BL

by **Jolly Roger**

Posted: **05 Jun 2015, 23:11**

Just gorgeous! For me, this is about the sweet spot for scale gliding off a hill. Big enough for presence/performance, but small enough to carry/launch, and constructed with materials you can repair yourself.

Out of interest, what's the AUW? Think mine's down to 13.5lbs since I took out the retract.

### Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **05 Jun 2015, 17:39**

Well, that's the ASW20BL now complete and ready for its maiden flight (whenever that's going to be!). I will probably spend a bit of time enhancing the cockpit detail over the next little bit but in theory there is nothing to stop the aircraft flying tomorrow (other than the weather and my inability to get up hills at the moment).

Thanks to everyone who made nice comments on this thread over the build and I hope that my comments and photos will help other PTM builders.

Brian. 😊😊😊😊😊





Sitting pretty in the sun and not quite so white now.

### Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **05 Jun 2015, 09:01**

Thanks for the nice comments guys (and girls), as I said before, I hope to have the colour vinyl in place some time today plus a little more fiddling with the retract. I will post a finished photo soon.

Rog, I have glassed and sprayed my wings in the past and it represents a mountain of messy work to get a reasonable finish. Film (Profilm/Oracover) makes a good job but is a little less resilient, imparts little or no strength, and can be difficult to apply at times. Vinyl proved to be very easy to apply and promises good scuff resistance but it does show up every single mark on the surface. I think that moulded glass flying surfaces are the only way to get a strong flawless finish - however I don't think my wife would be too happy if I was to send a very big cheque to Paritec. Brian. 😊

### Re: "Pat Teakle Models" ASW 20BL

by **Jolly Roger**

Posted: **04 Jun 2015, 23:07**

You've done a fab job there Brian - real quality craftsmanship.

Incidentally I glassed then brush painted my wings on PT's advice. 3 coats of thinned enamel, flatted back with 600 grit W&D used wet, then the last coat polished up. Lovely finish but a mountain of work and I swore I'd film forever after it! May try vinyl next time.

Rog

### Re: "Pat Teakle Models" ASW 20BL

by **roo Hawkins**

Posted: **04 Jun 2015, 23:00**

Looking great Brian. Looking forward to seeing it with the colour on 😊

### Re: "Pat Teakle Models" ASW 20BL

by **RobbieB**

Posted: **04 Jun 2015, 22:38**

Nice one Brian - hope the workshop is just as tidy.....

### Re: "Pat Teakle Models" ASW 20BL



by **Antonia**

Posted: **04 Jun 2015, 22:03**

Eeeeeee! That looks right good our kid..... 😊

Well done Brian that's really nice, it'll be great with decals and trim colour.

## Re: "Pat Teakle Models" ASW 20BL

by **Peter Balcombe**

Posted: **04 Jun 2015, 17:50**

It looks lovely Brian.

I hope that it flies as well as it looks.

Won't be long now. 😊

## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **04 Jun 2015, 17:14**

Today I got the ASW20 put together and all of the controls set up for flight. Everything works in the right direction and all the mixing is correct. The settings will be finalised over the course of the first few flights.

I balanced the model with a range of CofG settings from 27.5%, to 33% MRC. I moulded up a lead noseblock which on its own will put the CofG at 33% of the root chord. During the moulding process I inserted a bolt into the block. I can now bolt on shaped slabs which will bring the CofG forward to 27% of the root chord. I will remove these slabs progressively to ease the CofG rearwards till the aircraft is flying as I would like it. The original instructions recommend a starting CofG at 22% but from memory my last ASW20 was flown happily at just over 30%. I have attached a couple of "all white" images of the fully assembled model. I will start putting on the colour tomorrow with a bit luck.

Brian. 😊😊😊



The ASW20 is just about finished, just a few little jobs to do now.



It all looks terribly white at the moment.

## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **02 Jun 2015, 12:55**

More Progress!

I have been adding all the twiddly bits today. The servos are in and connected up and all the



wiring has been routed into place. Everything fitted pretty much where it was planned, so that worked out quite well.

The next job will be to get the "20" balanced and get the lead moulded up to fit in the extreme nose.

Brian. 😊



The seat hides nearly everything when in place.



All the equipment and wiring under the wing.



The cockpit layout.

## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **01 Jun 2015, 09:37**

Pat, my first ASW20 was fully glassed and spray painted and I was very happy with the durability, especially on the slopes where I usually fly. However I hate spray painting as I usually make a bodge of it, and apart from that I have started to react unfavourably to the spray dust if exposed for too long. That's why I decided to try out vinyl this time. I was impressed by how easy it was to apply but it does show up every mark on the surface it is being applied to.

As you probably know I am having mobility problems at present but I am hoping to get down south later in the summer. I suspect that the "20s" maiden will be by aerotow at MW as I cant climb my hill just now.

Brian. 😊

## Re: "Pat Teakle Models" ASW 20BL

by **Pat Marsden**

Posted: **01 Jun 2015, 07:45**

Just caught up with this build thread Brian, its given me the urge to finish the refurb on my PT ASW20 which has been dormant for a couple of years.

Will have to contact Cliff for one of those fantastic dashboards, tempted to spray my wings as when I took the old covering off I saw they had been glassed. Off to Cheddar tomorrow for a week of flying, weather permitting, and look forward to hopefully seeing you at MW later this year.

Pat

## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **31 May 2015, 10:27**

I have finally managed to fill all the blemishes and have finished keying and matting down the fuselage with wet & dry. I had intended to spray outside but the current weather has meant that I have had to resort to the garage. I have now sprayed one coat of white primer followed by a mist coat and two full coats of gloss white. 😊

I was very happy with the results until I checked this morning only to find a small paint dribble right next to the cockpit. Why does that always have to happen? 😞😞😞 The flaw has now been rubbed back with 600 wet & dry and given a quick burst of spray.

Brian. 😊



Fuselage sprayed up and looking a bit white.

## Re: "Pat Teakle Models" ASW 20BL

by **Simon WS**

Posted: **23 May 2015, 12:01**

I feel your pain on the undercarriage doors Brian! I spent ages doing my Nimbus doors and had to do a lot of reinforcing and shaping to get them right which resulting in them being thicker than I would liked with the corresponding issues involving hinging and door gaps. I'm fairly happy with them now and yours look very good.

Hope your health issues improve soon and look forward to seeing you again at another aerotow

Simon

## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **23 May 2015, 07:30**

Well, after a couple of fairly enjoyable hours of cutting, filing, bending and twisting sheet alloy the new undercarriage doors were hinged into place. As you will see from the photos the fit is now much better. I have just been out to check this morning and everything works well and the undercarriage looks just right. Job Done!

Brian. 😊😊😊😊😊



The undercarriage now goes up and down quite happily.



The hinging complete and the doors sitting flush with the fuselage.



The alloy sheet cut and bent to shape.

## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **21 May 2015, 11:29**

Thanks Antonia, I am determined to make it down to MW sometime this year come hell or high water. 😊

I am however seriously unhappy with the fit of the undercarriage doors. They were formed from the section of fuselage which was cut out to form the undercarriage opening. When hinged into place they have gone all out of shape and just don't fit the opening at all. The problem is that they are too thin and flexible to do the job properly. I have also found that the fuselage round the opening is also quite flexible and requires to be reinforced. I have found a nice piece of 1mm alloy sheet in my scrap box which I intend to cut and bend to make the replacement doors. I will also be reinforcing the opening with an additional couple of layers of glass cloth. Yet more work that I didn't anticipate.

Brian. 😞😞😞



### Re: "Pat Teakle Models" ASW 20BL

by **Antonia**

Posted: **21 May 2015, 09:18**

Let you off then..... 😊

Hope you get better soon, sounds like you're quite crook at the moment, all the very best from Mel and me and hope to see you soon.

Antonia

### Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **20 May 2015, 23:01**

Now don't forget the DV panel air scoop, you said you were going to do high scale detail.....

Sorry Antonia, I'm getting to the stage of just wanting the build finished, never mind the super scale detail. Unfortunately I am not very mobile at the moment and even when I eventually get the "20" finished I don't know when I will get it flown. However I am getting bits done when I am able.

Brian. 😊

### Re: "Pat Teakle Models" ASW 20BL

by **Antonia**

Posted: **20 May 2015, 21:34**

Ooooooh, that looks nice!.....

Now don't forget the DV panel air scoop 😊 you said you were going to do high scale detail.....

Hope you're getting better and feeling up to a MW trip soon, ttfn.

Antonia

### Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **20 May 2015, 19:45**

The progress on the ASW20 is very slow at present as I am a little incapacitated just now. However I have managed to finish the canopy, getting it attached to its frame, all masked off and sprayed up with colour. As I write this the fuselage is hanging in the garage having been rubbed down with wet and dry this afternoon and it has had all its seams sprayed up with primer. Hopefully I will get pinholes filled tomorrow then start the final spraying process.

Brian. 😊



## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **01 May 2015, 16:54**

I have finally finished messing about with white vinyl and the flying surfaces are covered and hinged. The vinyl was easy enough to work with and has a number of merits but it is very different to covering with "Profilm" or glass. We will see how it stands up to life on the slope! The detachable wing tiplets have worked out well and they do look like the full size version. Brian. 😊



## Re: "Pat Teakle Models" ASW 20BL

by **Peter Balcombe**

Posted: **22 Apr 2015, 11:26**

Looking very nice Brian.

## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **22 Apr 2015, 10:41**

I haven't made much progress on the "20" in the last couple of weeks due to family commitments. Also, it's the time of year when I have to get my garden ready for summer (when it comes). However I have fitted the aerotow release system - I have gone for a wire in tube system this time instead of a nose release. I have fitted the rudder servo mounting on the fuselage next to the retract and also the receiver mounting tray under the seat position. I have lined the cockpit sides and made the side panniers, also the seat is nearing completion. I have also started trimming the canopy glazing to shape. This is a job that I hate as one small slip of the scissors and you will be in need of a new moulding.

Progress is slow but the "20" is getting there.

Brian. 😊





## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **12 Apr 2015, 12:30**

This last week I received a large roll of white vinyl with which I intend to cover the flying surfaces of the "20". As I have never used vinyl for covering before I am more than a little cautious. I started with the tailplane and elevator and I have been surprised at how easy it is to apply, even round wing tips and compound curves.

However one drawback is that it seems to show every single little blemish on the surface of the piece being covered. No matter how well I have sanded the joint between veneered foam panels and balsa capping the joint still shows. Ho Hum! Oh well, never mind, at 50 feet no one will ever notice!

Brian. 😊



## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **09 Apr 2015, 10:35**

In the last few days I have been working away on the wing root/fuselage joint, trying to get a good fit. The joint as it comes is not too bad but requires refining, especially at the trailing edge where it needs lengthening by about 1/8 inch. I masked off the wing root and applied small quantities of body filler before sanding back to profile. One disappointment has been that I have found a few cavities between the gel coat and the glass cloth structure. These have opened up during my sanding operation and have required to be filled and made good as well. I have also drilled up holes for the wing fastenings and also the 9-pin D-plugin. The roots are now ready for finish wet and dry sanding before painting.

Brian. 😊





### Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **03 Apr 2015, 12:50**

Likewise Antonia! The wing profile at the flap midpoint is no problem at all, however when you get out to the wing tip it is all very slender and thin. There is not a lot of leeway at the aileron horn point and at the extreme tip there is little room to create the correct profile on the aileron surface. That's why it has taken so long to get it all shaped up.

I don't remember having as much of a problem when I created my original "20" from Pat.

However that was based on a 15 metre "20" while this model has the longer (and thinner) 16.6 metre span. Add to that that the original one had simple top surface hinging, whilst I have rather gone to town on this one. As I have said before, I have made a rod for my own back.

Brian. 🤔

### Re: "Pat Teakle Models" ASW 20BL

by **Antonia**

Posted: **01 Apr 2015, 13:45**

Ahh..... Proper job!.....

Looking really good Brian, wish my 25's wings weren't so thin that I couldn't do a proper scale control horns as well, looking forward to seeing it all working.

Antonia

### Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **31 Mar 2015, 20:21**

Thanks for the nice comments guys. I like to try and make a proper job of all my models although I can understand most people wanting to get a basic job in the air as soon as possible.

Terry, It will be finished when it is finished. I am finding that if I take plenty of time to do a particular job and take plenty of care, the job usually turns out really quite well.

The maiden will be flown from one of my local slopes in good weather conditions and with few or no spectators.

Brian. 😊

**Re: "Pat Teakle Models" ASW 20BL**by **terry white**Posted: **31 Mar 2015, 19:53**

Hi Brian,

Although there must be other builders out there that have gone to town on their P.T. model, I have to say I have never heard of any one doing such a fab job as you are. Awe inspiring is what it is. When and where do you think the maiden will be? Will it be on the tow or from the slope? I would love to be there. Terry.

**Re: "Pat Teakle Models" ASW 20BL**by **Geoff Pearce**Posted: **31 Mar 2015, 17:11**

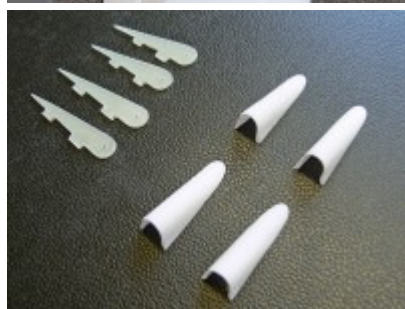
Nice work Brian, if you need any practice your welcome to do it on my models, 😄😄

Geoff

**Re: "Pat Teakle Models" ASW 20BL**by **B Sharp**Posted: **31 Mar 2015, 13:33**

The aileron and flap pushrods and horns on the upper surface of the wings are one of the features of the full size ASW 20. I have replicated the pushrod shrouds by making little fibreglass mouldings. The horns on the flaps and ailerons have been manufactured from epoxy board. These will have a layer of 3/32 ply added on each side to give them more body and they will then be sanded to a streamlined shape so that they fit neatly behind the shrouds.

Brian. 😊

**Re: "Pat Teakle Models" ASW 20BL**by **Peter Balcombe**Posted: **29 Mar 2015, 20:09**

Looks to be a good job Brian.

I don't know about the theory side, but they certainly look nice. 😊

**Re: "Pat Teakle Models" ASW 20BL**by **B Sharp**Posted: **29 Mar 2015, 18:33**

I'm back to doing some more work on the wings. I had to take a week off working on the ASW to repair my little Slingsby Swallow (don't ask!).

Wing tips this time. The full size machine that I am modelling has winglets so therefore the

model has to have them as well. I have made them removable so that I can get them into the car, the workshop and wing-bags without damage. The triplet has been mounted at -1 deg. to the airflow (washout) and at 96 deg. to the top surface of the wing. This is to take the wing dihedral angle into account and to prevent the tips pointing back in towards the fuselage (that looks just plain ugly). I have retained the wing tip section at the base of the triplet transitioning to a fully symmetrical, 15% thick section at the top. I think they have turned out fine and I'm quite happy with the job.

Brian.



## Re: "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **24 Mar 2015, 01:00**

Thanks Guys.

Brian. 😊

## Re: "Pat Teakle Models" ASW 20BL

by **Peter Balcombe**

Posted: **23 Mar 2015, 20:04**

Very nice Brian.

That is going to make a proper job of it 😊

## "Pat Teakle Models" ASW 20BL

by **B Sharp**

Posted: **23 Mar 2015, 18:46**

**I thought it would be sensible to move this thread over to the new site.**

My last post on the old site said that while I waited for a new canopy to arrive from PTM, I had attached the instrument panel (c/o Cliff Evans) to the canopy frame and I was in the process of shaping up some pink foam for the binnacle. I have now completed that work and the general shape and form appears acceptable. This morning I covered the binnacle and the shroud over the instrument panel with 1oz glass cloth and epoxy. When set, I'll trim it up and then give it a light sanding before painting.

Brian. 😊



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