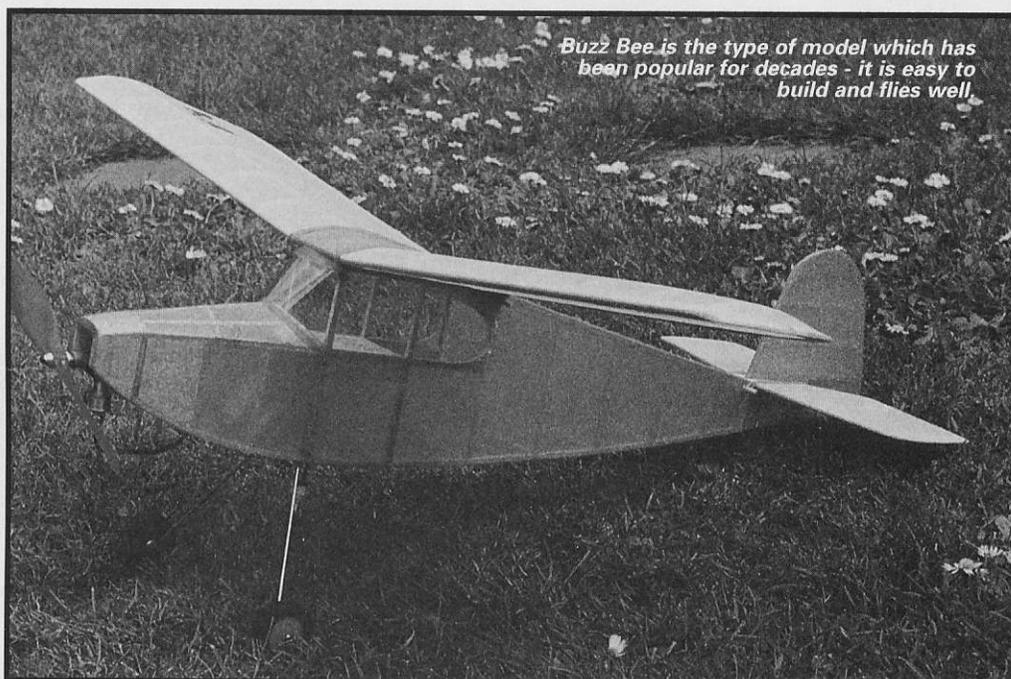


**Build this Mark Bees
design for CO₂ or
rubber power
which offers
good
performance
with simple and
traditional construction**



Buzz Bee is the type of model which has been popular for decades - it is easy to build and flies well.

I originally designed Buzz Bee in 1991 for my eight-year-old son. He had already built a couple of simple kits, but there didn't seem to be one readily available as an intermediate type which would increase his building skills, fly well and not be too small and fiddly to make.

Frustration and boredom set in quite quickly with most youngsters. (An eight-year-old's attention span is about 15 minutes if you are lucky). For these reasons the model had to fulfil certain criteria. It had to be bigger than most kits offered for beginners, but not so large that it could not be built on the kitchen table. Equally important, it had to be stable, easy to trim and not too expensive. We had a lot of fun with the rubber version first and then went on to power it with an inexpensive CO₂ motor.

Start by selecting some good quality light wood and ignore the hard and heavy stuff one so often sees in R/C model shops. PVA white wood glue is very good for this job as well as being safe and easy to use. It is assumed that beginners will be working under some supervision and advice, although if they have made a couple of similar models they should be OK solo.

Fuselage

Put the plan out on your nice flat building board and cover it with cling-film. It is important to set out from the start which version of the model you are going to build - the rubber or CO₂ one. Throughout the construction various parts will need to be installed or omitted depending on the type being built. Consult the plan carefully.

Build one fuselage side over the plan first; when dry take the pins out and cover it with another piece of cling-film. Build the second side directly over the first one. This will ensure they are exactly the same. When the glue is dry separate the sides and fit the spacers so that the fuselage is true and square.

It pays to be patient and only fit a couple at a time, waiting for the glue to dry before fitting any more. You can always be getting on with the other components in the mean time. I would suggest that if a very young person is to use the model (i.e. letting a younger brother have a go) it would be as well to install sheeting into the bottom half of the bays below the cockpit glazing to avoid fingers being poked through the tissue.

Beginners are strongly recommended to use a ready-made prop for the rubber version, either plastic or balsa. If one cannot be obtained it is a good idea to ask a more experienced modeller to help you make a prop from the blank shown.

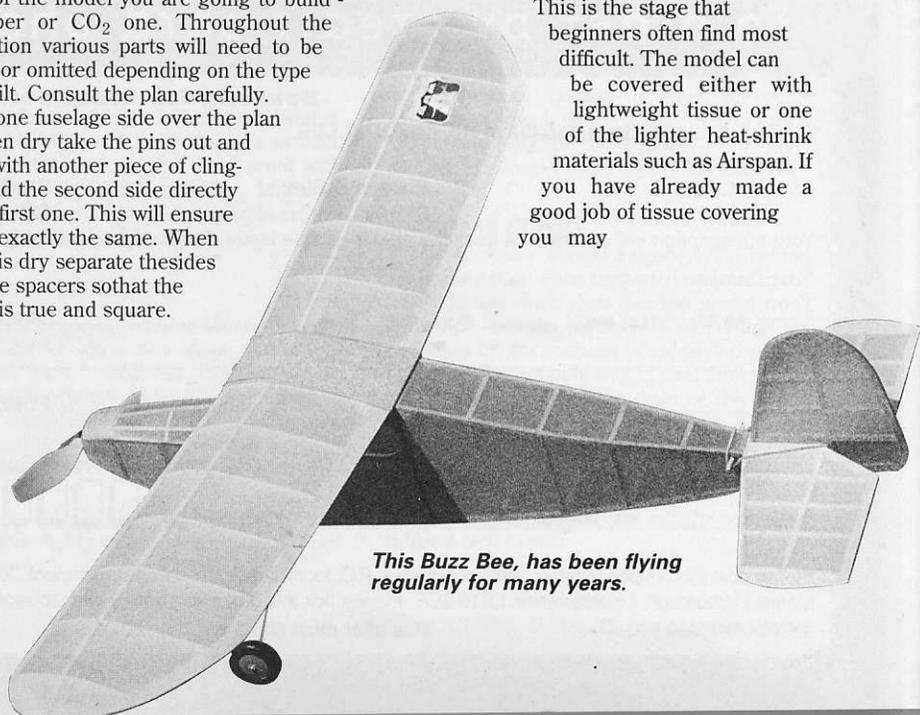
Wing and tailplane

No problems here, but as with all wing/tailplanes great care should be taken that they are built true and no warps occur. A little extra time spent at this stage will pay dividends when flight trimming any model. Using two

thin ply templates, all the ribs except the tip one can be made by the sandwich method.

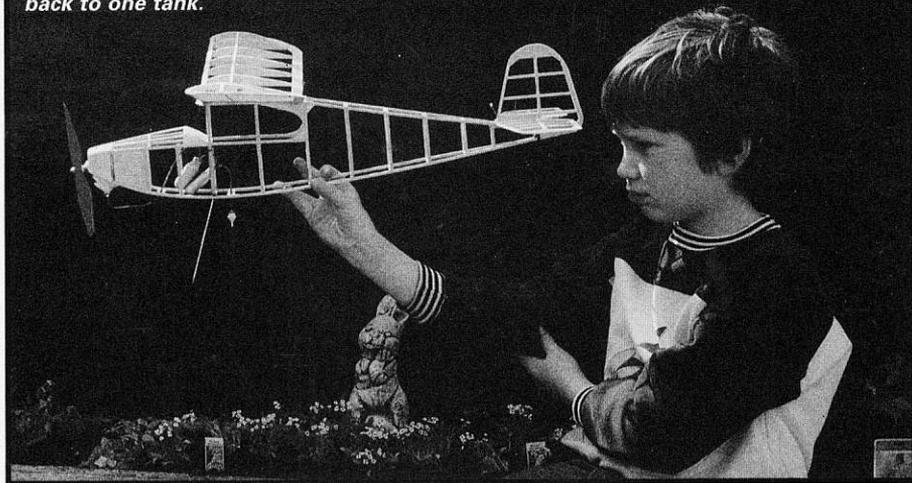
Covering

This is the stage that beginners often find most difficult. The model can be covered either with lightweight tissue or one of the lighter heat-shrink materials such as Airspan. If you have already made a good job of tissue covering you may



This Buzz Bee, has been flying regularly for many years.

Young James Bees with his partly completed model some years ago. He helped his dad to design and trim the model. You might just be able to see that at this stage two tanks were tried for longer duration in large fields. It didn't seem to make much difference and they went back to one tank.



want to use it again. If you want to try something else, then Airspan is a good alternative. You might find it more convenient although it is a little more expensive, but easier to put on using the right tools. Whichever you use, lightly sand the model all over with sandpaper on a large block first and take your time.

The rubber motor

Make up a motor from 1/4 flat rubber which is 20" long and six strands. i.e. 10ft or about 3 metres of rubber. Lubricate it with a little proprietary rubber lubricant or

castor oil from the chemists. Pre-tensioning a motor is a good idea, but a bit tricky with a six-strand motor, so ask an experienced modeller for help.

Stretch winding is always the preferred method and this motor will then take up to 700 turns safely. If you don't stretch wind, limit the turns to 500. You could try an eight-strand motor later if your model is on the heavy side.

The nose block is the heart of a good rubber model and needs to be made with great care. If the first one does not come out free and true then make another one or it will ruin the model's performance.

CO₂ motors

They all come with instructions which should be studied carefully. What they never seem to say is that much more predictable runs are achieved if you use one of the large soda stream charging cylinders and an adapter. Rather expensive to begin with, but cheaper in the long run if you intend to fly CO₂ regularly.

Flying

Before any flight trimming is carried out check you have approximately one degree down thrust and one degree side thrust on the nose block of the rubber version and about twice that for down thrust on the CO₂ version.

If necessary add a little ballast (plasticine) to make it balance at the point shown. Most fields available for modellers to fly in these days are on the small side. I find it best to fly left/left, that is a powered flight turning left and a wider circle gliding left. I know this is not the safest way to turn a powered free flight model, but if the power is increased slowly and the left trim applied a little at a time, with this particular model there are no problems and you can fly in surprisingly small spaces with a little care.

After you have adjusted the model to get the glide right try low-power flights. Two hundred turns on the rubber motor and reduced speed with the CO₂ motor with a "gas" only charge. (Charging with the gas cylinder pointing upwards with the liquid at the bottom gives a gas charge). Correct any unwanted tendencies by altering the thrust line with small packing pieces and gradually increase power and duration.