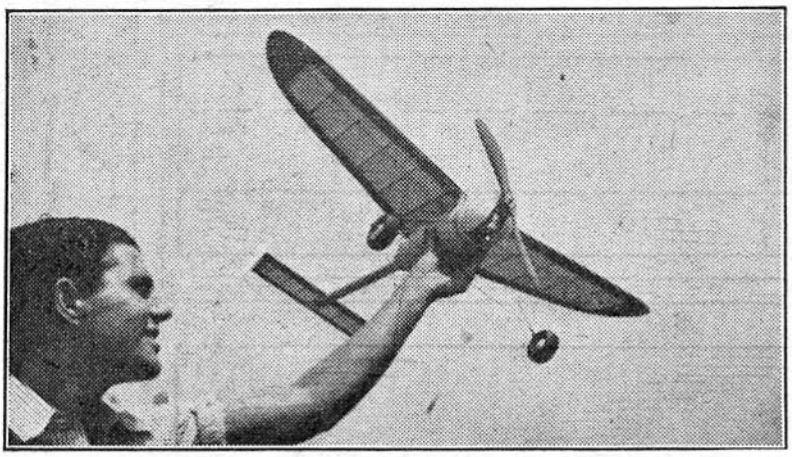
"And in this corner, gentlemen-the Flying Aces Gas Flea!" Introducing this little three-foot fuel flyer for your inspection and approval is Matty Matera, who gave valuable assistance to Paul Plecan in test-hopping and adjusting the model. The Gas Flea's a neat looking little lady, think you not?



A Three Foot "Sky Knife"

Here we present the smallest gas model design yet to appear in the pages of our mag -the F.A. Gas Flea. But in spite of its scant size, this yard-wide miniature possesses all the basic characteristics of the larger models-together with the advantage of low-cost construction. You'll find its construction simple, based as it is upon a novel, monocoque tail boom of great strength. Go to it, fellows, and build-

The F. A. Gas Flea

By Paul Plecan

Compare the scant wing-span of our little gas-driven Flying Aces Flea with the broad spread of some of the bigger fuel jobs you've seen, and you'll realize that this three-foot cuty is really a Lilliputian in the gas motor field. But our tiny terror has many advantages over the big ships, the main one being its low cost of construction.

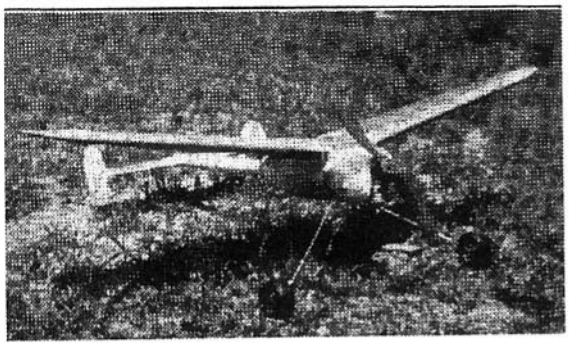
Believe it or not, the original model from which this article was written was built at a total cost (exclusive of the engine) of

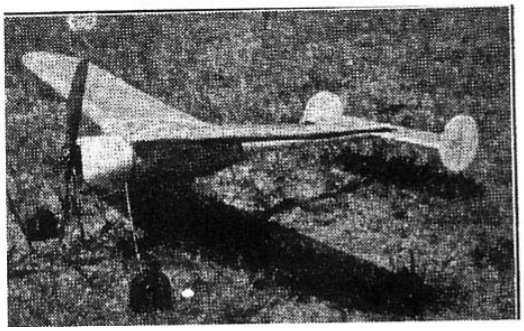
just $1.83! It's true that if I'd had to buy each and every piece used in the ship, the cost might have been somewhat higher. But I'm no different than the rest of the modeling tribe in having a fair supply of usable odds and ends of material left over from previous jobs. So when you build your Flying Aces Flea it shouldn't cost any more than a couple of bucks at the most-again exclusive, of course, of the engine.

Another advantage besides the price is ease of transportation. You don't have to hire a truck or pester a friend for his car when you want to take the little fellow out to the flying field. For with the simple type of monocoque construction used here you'll find our ship extremely strong, yet light in weight and sufficiently compact for convenient carrying.

The Flea is inherently stable. Since we completed construction many months ago I have flown her nearly every day-and she hasn't gotten into a spin yet! And in spite of constant rough landings on the field where I fly her, she's still in "excellent physical condition," since the landing gear and tough fuselage have brought her through every time.

Yes, gas fans! The Flying Aces Flea isn't the biggest gas job in the game, but she comes mighty close to being the toughest. And I know you'll agree with me after you've built and flown yours. So let's get going!





Above, we have a fine front-quarter view of our FA Gas Flea. Because of the ship's "miniaturity," perhaps Paul Plecan should have christened her Tom Thumb instead. And speaking of Tom reminds us of the famous theatrical troupe of Singer's Midgets, which gives us another simile, since you'll surely sing when you see her fly. The picture at the right gives us a chance to get a better glimpse of her wing and tail surfaces. By the way, you'd better colour your FA Gas Flea red, 'cuz she's awful apt to get lost in the short grass.

GENERAL CONSTRUCTION

Look over the plans and instructions and make sure you fully understand the proposition before you start. Then you're ready for the first step, that of building the tail boom.

After obtaining sheet balsa of the required dimensions (see Plate 1), soak it in hot water and then bend it around a 7/8" diameter rod. Wrap evenly with cloth or rubber strands to keep it in shape while it is drying. Then cut out the bulkheads for the fuselage following the plans on Plate 3. Next cut the ribs (Plate 2) to shape.

When the tail-boom has dried and the seam along its side has been cemented, mark off the spacings for the bulkheads. Slide the proper bulkheads into place and cement with a good grade of model cement At this point, the landing gear (Plate 1) should be bent to shape and cemented securely to bulkheads 1 and 4. Do not spare the cement on the landing gear, since this part of the model takes most of the abuse both when taking off and on landing.

Cement the motor mount (Plate 1) into place, first making sure that it is being fitted parallel to the centre line of the fuselage.

The monocoque fuselage construction is really simple, and modellers should experience little difficulty in producing a perfect covering. The planking strips of 1/16" by 1/4" balsa are best applied in the following manner: one strip is carefully cemented along the centre of each side of the fuselage, and then one along the bottom. After the cement has dried, additional strips are attached between those already on, and left to dry.

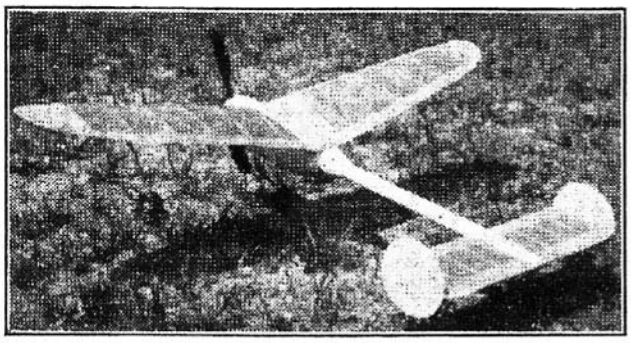
Keep on adding more strips until you have filled all the spaces. The fuselage should he set aside to dry thoroughly and then should be sanded with rough sandpaper until the covering is comparatively smooth. Finish off with finer sandpaper, then apply two coats of dope.

THE TAIL

The rudders are very simple, being made of 1/8" sheet balsa. The stabilizer is two pieces of 1/4" by l" by 131/2" with 1/16" by 1/4" by 21/4" ribs cemented in place. A 1/4" slot should he cut in the tail boom and the stabilizer cemented in place securely.

The rudders and tail-skid are cemented in place next. Small fillets are carved from soft balsa to fillet the rear of the tail boom into the stabilizer.

The cowling is carved according to the engine used, so no more need be said about it here. However, slots should be cut in the proper places in the cowl to afford easy access to the timer, gas adjustment valve, etc.



Strong and resilient, the monocoque tail boom of our trim F.A. Gas Flea, shown to such good advantage in this swell rear-quarter shot, is made merely by shaping sheet balsa around a solid stick. If you carefully follow the accompanying plans and instructions while building your model, you'll be more than pleased with the result.

WING AND ENGINE

When constructing the wing, take care not to let it warp. After cutting the spars to the size shown on the plans (Plate 3) slide the ribs into place and cement them well.

The 1/8" square leading edge former is next, and then the 1/64" by 1" trailing edge. (If you cannot obtain 1/64" sheet, incidentally, 1/32" sheet will do). The leading edge covering of 1/64" sheet should be soaked in water until flexible enough to conform with the leading edges of the ribs. Cover the wing tips with 1/64" sheet, and then cover the entire wing with Jap tissue. Red or orange are preferred because of better visibility in flight. Dope the entire model with two coats of dope.

Any engine with a bore and stroke of 1/2" or 5/8" can be used, but the weight of the complete engine, with coil, condenser, and batteries should not be more than nine ounces, or you will have a very fast model which will require a large, open, and smooth field because of the high speed and long take-off run required.

Remove your motor from the original skids and re-solder the ignition system so that the parts will fit in the proper places in the fuselage (see Plate 3). If you're "not so hot" with a soldering iron, you'd better let a more expert buddy do the work for you.

Cement the spark coil and condenser into the fuselage and cut an opening in the tail boom between Bulkheads 2 and 5 so that you can slip the battery holder in and slide it back and forth for adjustments. A good battery case can be made by wrapping paper around the two penlite cells that are used, and cementing the seam, forming a paper tube. Slots are cut in the ends for the wire fittings, and your battery case is complete.

Assemble the model and take it to a field where tall grass is growing. Glide it a few times without power and make any adjustments that are necessary. When the F. A. Gas Flea makes a long, flat glide from launching at shoulder height, she's ready for powered flight.

But be mighty careful about powered flights until you are thoroughly familiar with your ship and its capabilities. For there's many a model has gone A.W.O.L. just because a few too many drops of fuel were allowed on an early flight. An engine run of no more than ten seconds is ideal for the F. A. Gas Flea during the testing period.

After that, when you have the kinks ironed out and your method of control well in mind, you might be a little more liberal with motor running time.

When you build this husky youngster you might send us a picture of it. For I'm pretty sure that the Model Editor of FLYING ACES will want to reproduce it on his "With the Model Builders" page if it will "come up" at all well. Am I right, Mr. Editor? (You are right, Mr. Plecan!-Editor).

And perhaps it wouldn't be a bad idea to insert a word or two here about how to get those pictures, Although I'll admit that mine didn't work out a hundred percent satisfactory for this article. I can excuse that, though, by repeating the old saying about "Do as I say, not as I do."

Anyway, the editor tells me that the greatest faults in the pictures sent to him for publication lie usually in the backgrounds against which the ships are taken or in the focus of the cameras used. It seems that a light-coloured model is almost always snapped against a similar-shaded background, or a dark ship is shot in front of dark shrubbery. And in either of these cases, of course, it makes it almost impossible for one to distinguish the finer details of the model.

But when a good rear scene is used, against which the ship ordinarily would stand out perfectly, the focus is frequently wrong!

So you can easily see that the way to "make" the model builders' page with your snapshots is first to make sure of an "opposite" background for the picture and then carefully to measure the distance from the model to the lens and set the focus pointer at that figure.

Of course, the larger the picture the better it will be for reproduction, so your best bet is to have your camera as near the model as your focusing scale will allow. Lots of fellows use portrait attachments for close-up shots. These extra lenses aren't hard to use, but measure your distance right to the inch.