



It's hard to believe that it is only 66% smaller as looks like a midget in comparison with the bigger machine—giant though in its performance.

Small but potent is best way to describe our scaled down version of the Kwik-Fli by the author. To quote him "performance wasn't good-it was great". Fast machine can win for you.

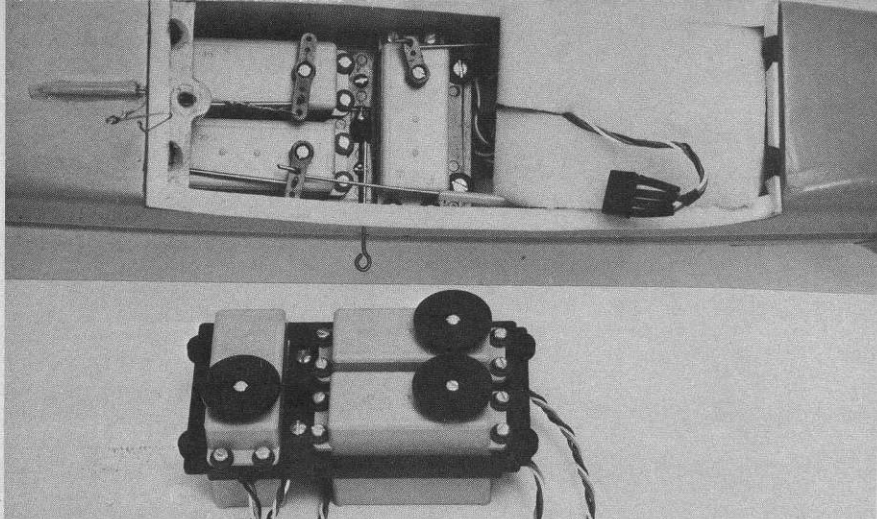
flea-fli

By PHIL KRAFT



After beating at those sixties all these years right out of the nose. Phil likes the economy of one four oz. fuel bulb to fill tank; it must be tough not to bat the little .19

► My secretary flounced into the office ("I must talk to her about that mini-skirt"). "Bill Northrop's on line 3" she announced. I quickly disposed of the calls on lines 1 and 2. "Hello Bill, how's the Eastern oracle," I answered snappily. "Where in hell are the pictures and article on the small Kwik-Fli," he answered with the deference Easterners reserve for Western colonialists and other peasants. "How soon do you really have to have it," I replied meekly. "One week and absolutely no more," he answered. It was obvious that Walt was paying for the call as conversation ended abruptly without the usual lengthy amenities Bill indulges in on collect calls. "Oh well," I thought, "might as well go flying. The day's ruined anyway." Since the "Flea-Fli" is painted exactly like the newer Mark III, maybe I should (Continued on next page)



Kwik-Fli in photo still has its international markings on fuselage and wing. Small machine with O.S. 19 faster in straight flight than the 111.

FLEA-FLI . . . Continued

get pictures of the two together before flying the Mark III, just in case. No, that can wait. After all it's been four years without even a bad glitch." I proceeded confidently to the smog shrouded local flying field.

After a few flights Chuck Hayes dropped by. About out of fuel, I was in the process of landing. "Hey Chuck, did I ever show you how slow this toad will fly?" "Don't ding it. It's too close to the Nationals. You better get a little altitude first," he answered. I applied power and started to turn for another

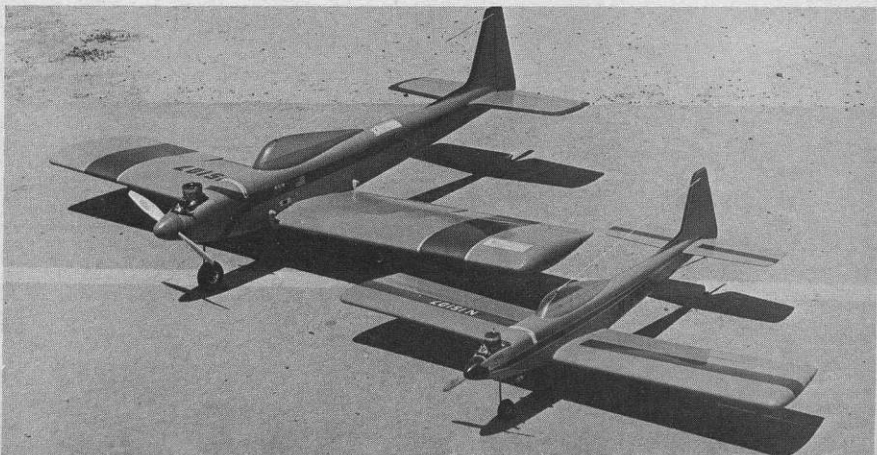
pass at the field. "Hey Phil, those loops look lousy," said Chuck, "I ain't got it," I yelled hysterically. The Qwik-Fli was merrily looping down wind neither gaining nor losing altitude. Meanwhile, I was doing the ancient and honored ceremonial dance of "I ain't got it" pilots: flip transmitter switch on and off, frantically move all control sticks, look down at transmitter meter (it's always nice to know that it's working when you are about to crash), throw transmitter on ground, kick transmitter. Steadily the Qwik-Fli looped off in the general direction of Cucamonga.

Unusual flying field spectator: "Why

is it flying away mister?" Me: "the damn radio doesn't work, dummy." Spectator: "Aren't you Phil Kraft? I thought radio manufacturers never had failures. Besides, isn't your equipment solid state?" Me: . . . (answer censored by editor).

Meanwhile, Chuck had taken off burning rubber to chase the errant Qwik-Fli. It finally ran out of gas, landed out of one loop, took off into another loop and landed "splat" on the center divider of heavily traveled Rosemead Boulevard. A helpful gentleman in a battered blue Chevy stopped, hopped out and stuffed (Continued on page 72)

Enya .60 in the 111 looks like a massive piece of iron in comparison to .19. Even slide switch dwarfs miniature switch used in Fleo-Fli.



Flea-Fli

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the Qwik-Fli in his back seat. Two miles up Rosemead, after a hot chase, Chuck managed to force this character to the curb. The sight of the very big and quite angry Chuck Hayes is enough to make even strong men quake. "Is this your airplane mister?" asked the frightened plane thief.

That night I lit an extra candle at my Mitsumi Motor God shrine. My wife complained bitterly about the heavy odor of incense emanating from the shrine of the transistor deity. However, I knew I must have been derelict in my religious duties. What else?

A post mortem revealed that an infallible solid state device (transistor) in the rudder servo failed, shorting out the battery.

Note to chief design engineer: "Dear Jerry, there used to be a thing that looked something like a small light bulb. I understand it can do the work of infallible solid state devices. Please investigate." Signed, Infallible President.

So much for why old Orange Trash is pictured with the Flea-Fli, and on to the point of the article.

Jimmy Witt, one of our infallible technicians, was inspired by Chuck Hayes' new ultra miniature servo to build a semi-scale 70% Mark III Qwik-Fli. Jim even haywired the electronics into these tiny servos before prototype electronic layouts were completed: no mean accomplishment. However, Jim goofed in test flying his miniature creation at the Mexico City Nationals: altitude 8000 feet. Powered by an O.S. .15, the little Qwik-Fli managed to get airborne but that's all. Running out of ideas and altitude simultaneously, he strained it through a tree.

Epoxy cement and a trip to a local Mexican hobby shop for an O.S. 19 got the ship back in the air the next day. However, performance at the extreme altitude was still not inspiring.

Back down at sea level things changed. The little ship was a joy to fly. Jim condescended to let me try it and I was immediately hooked.

The next day I had my secretary ("Umm that mini-skirt is even shorter, maybe I won't talk to her") place a call to Sid Axelrod at Top Flite. "Hello Sid, how's by you?" Sid muttered something about problems in packaging the full-width planking for the forthcoming Mark III kit. "I've got your problems solved Sid," I answered. "I am going to build a Mark III that is going to fit in a much smaller box. Then you won't have the problem with planking. How about doing me a favor. Can you get me plans for the Mark III photo reduced to 66%?" Sid reluctantly agreed, commenting that he had not even had time yet to get the big Qwik-Fli out and here I was already messing around with a new ship which probably had a kitting potential also. I'm sure he felt that the whole thing was going to create more problems for him.

A few days later, the plans arrived and construction began. Construction closely follows methods used on the large Mark III Qwik-Fli. Against my better judgment Cliff Weirick talked me into a foam wing

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Flea-Fli

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on the first Flea-Fli. Now I believe foam has its place but only so long as it is on top of a nice cold mug of beer.

Our KP-4B radios airborne weight is slightly over 11 ounces. We, therefore, estimated total weight at 2½ pounds. However, with the dingy foam wing, total weight came in at 2¾ pounds. Actually, my concern over weight was unwarranted. The little ship could go to 3 pounds without materially degrading performance.

Test flights proved performance wasn't good—it was great. Never had I had so much fun with any radio controlled model. In general, performance characteristics are very much similar to the larger Mark III, although the Flea-Fli is much faster. Jimmy Witt happened out with his retractable gear Mark III. In an impromptu race, the little one ran away from the big one, retractable gear and all.

A few practice flights and that weekend I entered the Flea-Fli in the Valley Flyers Annual Contest at Sepulveda Basin. Everyone commented on how cute it was, dismissing it as a joke. At the end of the contest no one any longer considered it a joke. The Flea-Fli made second place, only 4 points out of first. Had I just been able to land the damn thing. Oh well.

One thing you don't need to worry about with this ship is running out of time in the AMA contest pattern. It will do the complete pattern in under 7 minutes. I don't mean to imply that the Flea-Fli is the all out answer for competition but in spite of its small size, it can be competitive. It has the inherent disadvantages of small size in regard to having to fly very low and tight, so the judges can see the maneuvers. Being small, its also difficult to see in certain attitudes. I succeeded in blowing just about one maneuver per flight because I couldn't tell what it was doing. Also, it flies through the pattern so quickly that you barely have time to line up between maneuvers.

For sport use, there are nothing but advantages in favor of the Flea-Fli. It fits fully assembled in the trunk of even the tiniest mini car. One squirt from the fuel bulb and the 4 ounce tank is full. There is not much to wipe down after flying. It's quicker and much less expensive to build and maintain. There are many really excellent 19 R.C. engines available. Most important, it's a lot more fun to fly. As one friend commented after a turn at the sticks, "Who needs anything else."

As to flight peculiarities of the Flea-Fli, there really are none. We did use about 3° right thrust as torque is a bit more noticeable on the small Qwik-Fli than on the large one. The C.G. position is shown at about 40% of the wing cord. You may have to add a slight bit of weight to the tail to obtain this balance point.

The wing loading on the little ship is higher than on the larger Mark III. At the Denver Mile High Contest, Cliff Weirick found out the correlation between wing loading and altitude. Flying his new little Flea-Fli in the pattern event, Cliff pulled out of the last half of the double stall turn too slow too low and that was it. His Flea-Fli immediately snap rolled in the deck. Cliff grinned sheepishly and commented "Oh well, he who stalleth,

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falleth."

Well, that's about it. You will have to excuse me. It's time to light the candles and incense to the gods. I'm not taking any more chances.

Foreign Notes

(Continued from page 6)

to deliver no less than 2.4 bhp at 22,000 rpm on straight alcohol. It is not stated whether this output refers to the bare motor or to the engine when fitted with a tuned exhaust system. The O.P.S. has obviously been designed for tuned pipes: it has a rear exhaust suitable for a flange fitting, and prototype engines that the makers have tried out in boats have been