

CONTROL LINE *Continued from page 86*

valve back in since the last flight, your starting needle setting will be a guess.

If the needle is set the way you flew it last weekend, don't touch it. It may not be exactly right for today's flying conditions, but it will be close enough to get started. If the engine doesn't start when you flip the prop a few times, don't start cranking on the needle valve; that's not why it won't start. Get the engine primed and running, *then* adjust the needle.

If you have not run the engine at this setting, take a guess at the needle setting that is likely to be on the rich side. It's better to start out blubbery rich and sneak up on a good setting than it is to start out too lean.

Now you've got the engine primed and you flip the prop and it starts. Did it just run a short burst and quit? Try it one more time; maybe there wasn't enough fuel in the line. If it happens again, we're too lean. Open the needle and try again.

Did it start and go real blubbery, throwing out smoke before it quit? Try again, maybe it was flooded. If it happens again, we're too rich. Close the needle and try again.

Now it's running—how does it sound? Is it weak or surging strong and weak, etc., or just fading out and sounding uncomfortable? Too lean, open the needle (hang on tight to the plane, it may surge). Is it blubbery and blowing smoke? Good, too rich. Close the needle a little at a time until the desired setting appears.

What kind of setting do you want? For stunt or sport flying, a fast four-cycle or just breaking between four- and two-cycle is desirable. For racing and combat you want the engine in a two-cycle but on the rich side of the peak. A trick competitive fliers use is to pinch the fuel line ever so briefly. If the engine holds or picks up a tiny bit, it's probably set about right. If it sags, it may be too lean. Remember that the prop will "unload" in the air and the engine will speed up. Err on the rich side for engine longevity!

There's much more to be said about starting engines, and we'll attack some other problems in future columns, particularly if we get some questions on the subject. One topic coming up will be some sample procedures for engine break-in.

For now, let's go to the mailbag for a few final odds and ends:

Just as this column was being written, the mailman came up to the box with a big envelope from Joe Wagner. Joe is a longtime modeler and designer of the Skua pictured in this column last year. He enclosed plans for the Skua and also for an old-timer called the Di-Doe. Here's Joe's commentary:

"You may remember including a photo and data on my Skua profile ukie in one of your columns some months ago. As a result I received several requests for plans. Because my original model was constructed from rough sketches, I had to draw up the enclosed.

"As you can see, my drawing includes quite a lot of detail. I've got a bunch of

sneaky model building tricks acquired through the years, which I use automatically (like epoxying aluminum sheet on each side of the nose to prevent engine mount embedment) but which up to now I haven't mentioned on my plans. Another nose-strengthening trick is that of using 1/2-inch thick maple all around the engine mounting area between the plywood doublers.

"I don't like the usual profile fuel tank setup, with the fuel feed line over an inch outboard of the spraybar orifice. For years I've been inseting my profile tanks, as on the Skua, to eliminate centrifugal force effects on fuel feed.

"Also enclosed is a copy of the original Di-Doe kit plan! This was probably the very first 'full-stunt' control liner. It was designed and kitted in Warren, Ohio, by a couple of friends of mine, Howard Thombs and Fred Dunn. (Fred later designed the famous Astro-Hog RC model.)

"Howard and Fred would attend model contests all around this area in 1947-48 with their funny little bent-nose biplanes and steal the show with their amazing aerobatic antics. Up until now I looked in vain for authentic plans for the Di-Doe—but now I've got 'em at last!

"I can supply interested modelers with copies of the Skua and Di-Doe plans for \$6 each postpaid—and I'll soon have plans available for another of my old Veco ukies, the 1/2-A Scout.

"I'll enclose another photo of my original Skua in case you can use it."

Joe can be contacted at P.O. Box 15, New Wilmington, PA 16142.

Further evidence that every modeling question has an answer, whether we can provide it immediately or not, comes in a letter from John Kelinske Jr. of Houston, Texas, who answers a puzzle asked some

time earlier by Dean Whisler. Dean was searching for plans for the old P.D.Q. Flying Clown. Writes John Kelinske:

"Plans are available from several people, among them John Miske, John Pond and Tom Dixon. As far as kits go, Tony Drago over at Control Line Classics has a nice Super Clown kit out. If I remember correctly, the Super Clown was the same design, only with a slightly larger wing and flaps.

"Original P.D.Q. kits seem to be very scarce, even though they were still available into the late '60s. I haven't seen one since I was in high school back about 1970. I am still trying to find one for my own collection without success to date."

Here are addresses of the people mentioned by John Kelinske:

John Miske, 415 Clifton Blvd., Clifton, NJ 07013.

Tom Dixon, Suite 401, 1938 Peachtree Road, Atlanta, GA 30309.

John Pond O.T. Plans, 253 N. 4th St., Box 90310, San Jose, CA 95109-3310.

Control-Line Classics, 1788 Niobe Ave., Anaheim, CA 92804.

As always, club and contest news, technical tips and questions, photos and other control line related matters always are welcome. Write John Thompson, 326 No. K St. Cottage Grove, OR 97424. **MB**

AUTOGYRO *Continued from page 71*

envisioned the autogyro as a mechanically simpler alternative to helicopters; able to take off or land on less runway than airplanes. Pitcairn was so impressed by Cierva's machine, that he started designing his own autogyros in the US in the '30s, the PCA-1 and PCA-2.

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