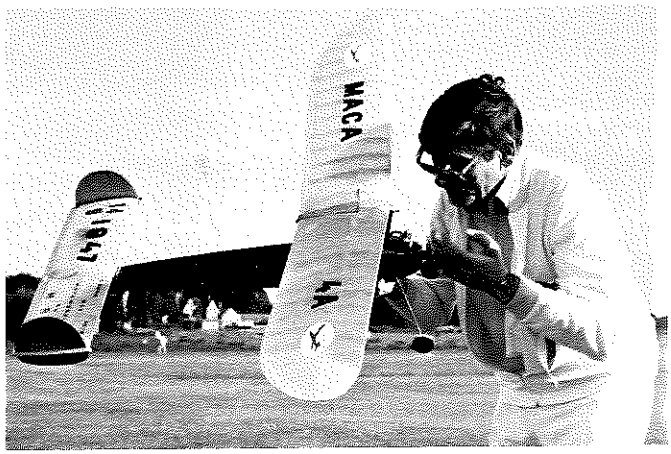
13. Australian Airborne Editor Merwin Buckmaster, with modified Goon design he calls the Bigoon. How about that backyard of his?

16. The late Dave Richie in one of his wheeler-dealer moods at a Collecto.

14. A Pacific Ace in England! Adrian Culf produced this one for the Old Warden Vintage Day. Photo: Imrie.



15. French O/T President, Michel Pierrard, came to the Old Warden Fun-Fly with a diesel-powered Fronteau design. Photo: Imrie.

3. Bruce Cronkhite	Bombshell/Cyke	1250
1/2A TEXACO (10)		
1. Eut Tileston	Rickard Wing	1984
2. Russ Schuppner	StratoStreak	1800
3. Ken Kuilman	StratoStreak	1676
ELECTRIC (12)		
1. Dave Tower	Playboy/Cobalt 05	840
2. Phil Moore	Playboy/LT-50	783
3. Roger Taylor	Viking/Cobalt 05	631

Back in February 1985, this columnist featured the Buzz 60 in the Engine of the Month section. Imagine his surprise when it was not until two years later that he was able to come across another Buzz engine, this time a .29. Thanks are in order to Walt Parker of Salinas for his kindness in allowing this writer to copy his engine.

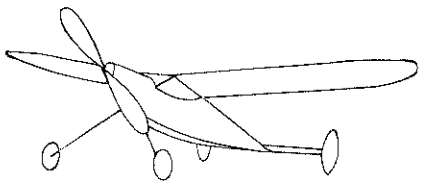
As pointed out in the previous article, America's Hobby Center dropped a real bomb on the rest of the engine manufacturers by offering the series of Buzz 19, 29, and 35 sizes for $4.95. This was quite a drop from their other engines; Thor at $9.95 (kit at $6.95), Genie at $7.95, and Ram at $6.75. This price was made possible by all engines using the same crankcase, connecting rod, crankshaft, tanks and needle valve assembly, plus the timer assembly. In fact, the only thing that differentiated the engines was the cylinder head, bored to three different sizes. No effort was spared to cut production costs by uniformity.

As pointed out in the Buzz 60 article, all parts were made from aluminum alloy formed in pressure die casting. This gave a very smooth finish and excellent strength

Continued on page 100

OLD TIMER of the Month

Ol' Reliable



Design by: Malcolm Abzug
Text by: Bill Northrop

• Just in case some younger modelers may be thinking that the Pacific Ace was the only small rubber cabin ship to fly before WWII, here's something to break the monotony. It's called "Ol' Reliable," and it was designed by Malcolm Abzug.

Full-size plans appeared in the January 1938 issue of *Flying Aces* for this clean little 24-inch span, twin-ruddered model. This meant either cutting out the two pages on which the three plan sheets were printed, or tracing the outlines on drafting paper, as handy-dandy copiers were virtually unknown back then. Fortunately, although cut loose, the pages are still intact in our copy of this magazine which is almost 50 years ago!

The wing ribs call for 3/64-inch balsa, but firm 1/32 sheet should be okay. Note the unusual spacer webs that produce a rear spar effect. A 1/16 x 1/8 spar notched into the bottom might be better, and produce a smoother covering job on the top surface. Certainly easier to build.

In another departure from norm, the wing was glued in place, and for added insurance, a 1/32 bamboo strut was

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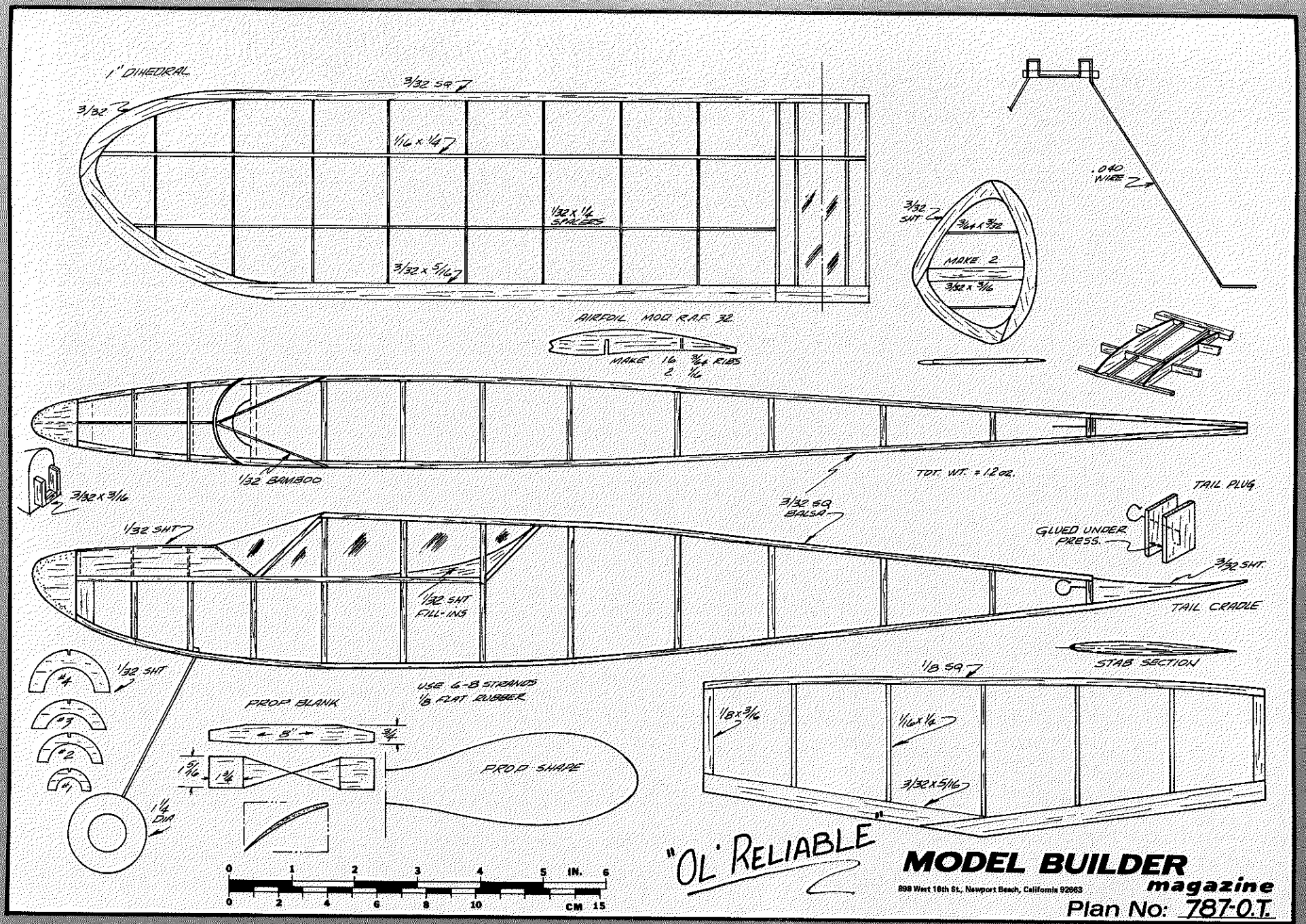

"OL' RELIABLE

MODEL BUILDER magazine

898 West 16th St., Newport Beach, California 92663

Plan No: 787-O.T.

(1) deHavilland Comet DH88 (twin engine 1934 racing plane).

(2) 1/6-scale span, 88-inch area, 900 sq. in. (6.25 sq. ft.).

(3) Use a Clark Y, at a wing loading of 20 oz./ sq. ft. Estimated total weight = (20 oz./sq. ft.) x (6.25 sq. ft.) = 125 oz. = 7.8 pounds.

(4) Power to hold level flight = (20 oz./sq. ft.) x (7.8 pounds) = 156 watts. Power to take off = 230 to 390 watts (estimate 250 watts due to tail dragger and large wheels). Power for decent performance = (60 watt/pounds) x (7.8 pounds) = 468 watt.

(5) I chose 20 Amp drain and 1.2 Ah Ni-Cds.

(6) Number of cells = 468 watt/20 amp = 23.4 cells. Since the Comet is aerodynamically very clean, I use two direct drive Keller 25/12 wired in series across the 24 cells, so each motor effectively "sees" 12 cells.

(7) Power system weight = 60 oz.

(8) Airframe weight = 125-60 (power) – 11 (radio) = 54 oz.

(9) I installed Rhom-air retracts (about 6 oz. penalty) and still came out underweight at 120 oz.

(10) Originally I predicted Rev-Up 9/6 at 9,000 rpm, but the Comet is so clean, I'm now using Rev-Up 9/7 or 9/8. Speed is about 75 mph, and the performance is breathtaking! I get 6 minutes of aerobatics and high-speed passes, and at highly reduced power I've made 14- to 16-minute flights, with a continuous motor run, no gliding or thermalling. This indicates about 125 watts of power, substantially under the estimated power to hold level flight. I suspect the twin engine efficiency and high aspect ratio wing contribute strongly to this phenomena.

Future Project:

(1) Duane Cole's clipped-wing Taylorcraft.

(2) 50-inch span, 432 sq. in. (3 sq. ft.), for geared 05 system.

(3) Use either Clark Y or NACA 2410, wing loading 14 oz./sq. ft. Estimated weight = 14 oz./sq. ft. x 3 sq. ft. = 42 oz. = 2.6 pounds.

(4) Power to hold level flight = (14 oz./sq. ft.) x (2.6 pounds) = 37 watt. Power to take off = 78 to 130 watt (probably about 90 watt). Power for sport aerobatics = (50 watt/pounds) x (2.6 pounds) = 130 watt.

(5) and (6) Using 7 cells, current is 18.5 amp, so a cobalt geared 05 would be needed. A Leisure geared 05 at 16 amp would give 112 watts or 43 watt/pounds, still reasonable power for sport aerobatics.

(7) Power system weight = 19.0 oz. (geared 05 and 7-1.2 Ah Ni-Cds).

(8) Airframe weight = 42 oz. -19 (power) - 6 (miniradio) = 17 oz.

(9) This should be feasible, using a built-up stick structure (ala old timer) covered with MonoKote or Micafilm.

(10) Geared 05 systems typically turn an 11/7 at 5800 rpm. With an estimate stall speed of 14 mph, we get a performance ratio of 40/14 = 2.8, suitable for sport aerobatics.

Well, that's my design philosophy. Go forth and create your silent show-stopper. I'd be glad to hear from you about your experiences. Keith Shaw, 832 Stimson, Ann Arbor, Michigan 48104. •

Old Timer. . . . *Continued from page 38*

glued in place between the bottom fuselage longeron and the main wing spar at the rib that is about 4-1/2 inches out from the centerline of the wing. The one-inch dihedral seems to appear inadequate, but it should be easy enough to change if any instability occurs.

Based on modern-day practices, another suggestion would be to move the rear motor hook (or aluminum tube peg) forward by two vertical stations. This will eliminate a possible tail-heavy problem.

It's a pretty little airplane. Build one and go get them Pacific Aces! •

Sport Shark . . . *Continued from page 21*

tail pipe. It is not simply a fan and shroud that can be used with a wide variety of engines mounted in any airframe. In order to function as designed, it is intended to be used exactly as designed. This may be a liability to the guy who wants to mount a Viojett in a pod and install it on top of a Kaos, but it does insure that the system will produce uniformly excellent results when installed as an integrated system.

The fan has seven blades and is only 4.6 inches in diameter. The small diameter was