

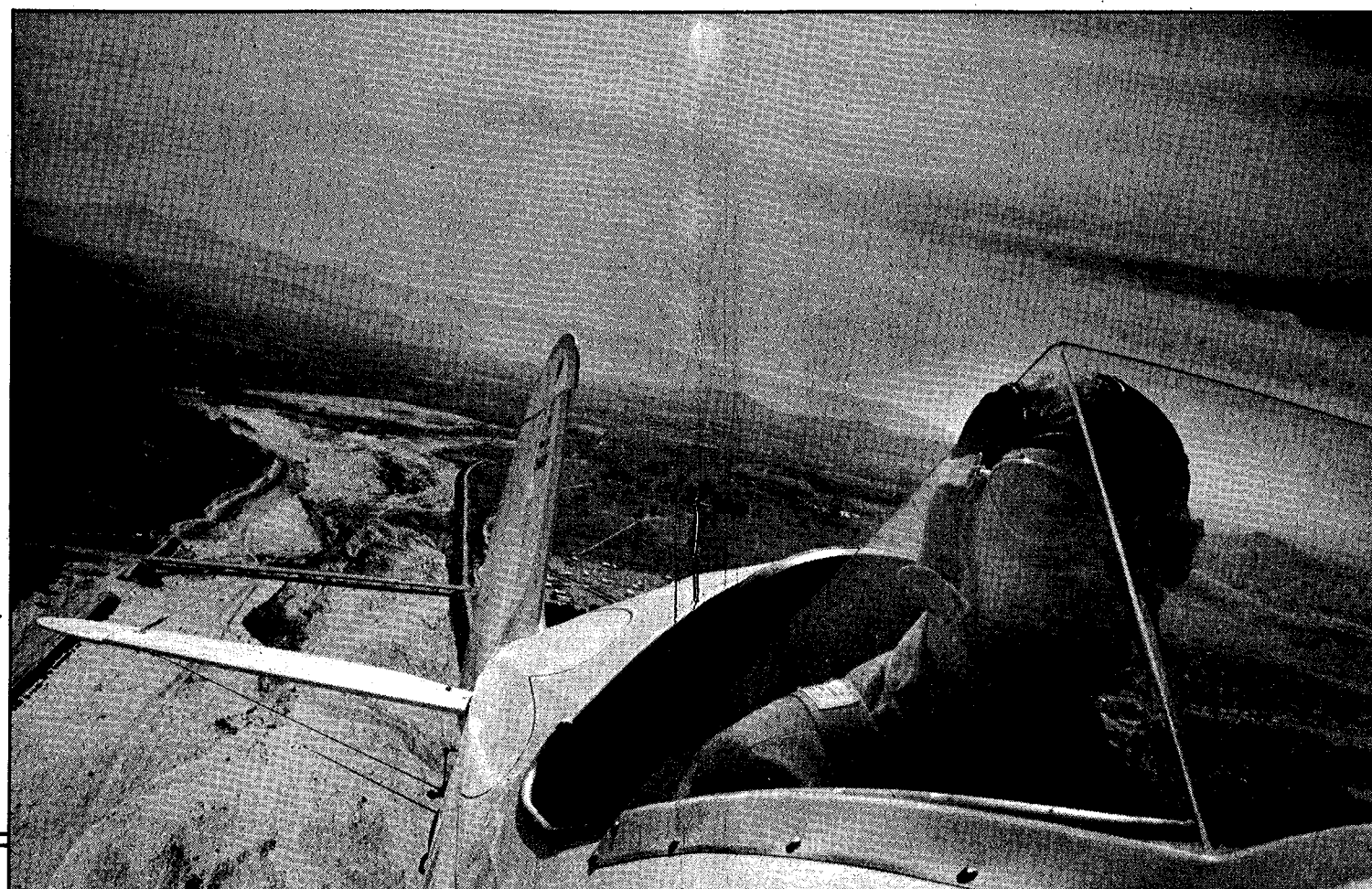
Clean lines of MA-5 Charger show up in this flight photo as designer Ed Marquart wings into late afternoon sun.

HERE COMES THE CHARGER: A BIPLANE FOR ALL SEASONS!

All the romance of open cockpit flying comes to life flying a Charger along a winding riverbed into yesterdays.



Poised as a racehorse, Ed Marquart's dream ship is sturdy for aerobatics, yet feather-light on aileron control.



B By DON DWIGGINS

Y THE TIME this book goes to press you're going to be able to make one of the most exciting \$75 investments of your life! "Think of it, seventy-five lousy bucks, cash or credit, gets you started on your way to a rich new life in the sky! Horizons unlimited! A veritable time machine that can take you back through time to the good old days when aviators were helmeted supermen!"

Pardon my enthusiasm, but that's the way the ad copy should read when Ed Marquart begins to market plans for his exciting MA-5 sport biplane, the *Charger*. Up to now only two are flying, though others are under construction.

But as of year's end 1972, Marquart, a master craftsman specializing in antique restorations and such at Flabob Airport, Riverside, Calif., is going to let us all in on the fun. To find out just what to expect, I accepted Ed's invitation to come over to Flabob and fly his prototype, N5491.

It was a sort of dream sequence, where you shut your eyes and open them and there you are, listening to singing wires and the staccato bark of a Lycoming O-290-1, its thundering 125-hp (all of 'em!) swinging this shiny metal McCauley prop. Down below, the green earth stretches for mile upon mile, and through the landscape meanders a babbling brook.

No matter that the countryside around Flabob is sort of

desertlike, and the meandering brook is a dry wash. From up above all is sweet and beautiful, and you're back in the Roaring Twenties again, in the fraternity of biplane pilots who wouldn't be seen dead in a frail monoplane with only one wing to hold it up.

Of course, there are biplanes and biplanes, but in Ed Marquart's *Charger* you have something special, a lively, poised, sweptwing beastie that is agile as a cat, rugged as a rock, and lovely to look at. It's a dream machine Marquart first thought up back in 1961, but didn't get around to detailing until five years later.

N5491 began to take shape in 1966 and was completed in October, 1970, the year it was licensed by Ed's backer, Dan W. Fielder, Jr. of San Jacinto, California. It's been back to Oshkosh (1971) and has logged more than 175 hours, mostly up and down the West Coast visiting fly-ins,

and as of now I'll bet there are a whole bunch of pilots and EAA members drooling over the prospect of turning out a *Charger* of their own.

The name isn't new, however — in 1964 Convair turned out a 300 plus mph COIN job by that name, and more recently Piper has added a *Charger* to their '73 Cherokee line, an uprated Cherokee 235. But there are only two MA-5 Marquart *Chargers* flying so far, and before telling you about Ed's prototype, let me mention the other, over at Cable-Claremont Airport, which now carries a 160-hp Lycoming and a constant speed prop, bringing its gross weight up 190 pounds (from 1035 to 1125).

This point is interesting, because it's typical of what happens when somebody tries for more performance by hanging a bigger powerplant up front — the weight increase often outweighs the advantage of the extra horsepower, and

all you gain is a better climb rate. The extra weight means higher wing loading, and the whole beautiful balance of a clean design can be thrown off.

So, back to N5491, which cruises nicely at 115 IAS at 2400 rpm at above 2,000 feet, burning 7 gph. With 23 gallons in the main tank (ahead of the front cockpit) and 9 extra in the upper wing tank, that gives you plenty of cross-country range plus reserve.

But the *Charger's* charm is not as a cross-country cruiser — you can fly a Luscombe cheaper, and inside a sealed cabin. Its utter delight is the sense of *joie de vivre* which it imparts the moment you swing over the side into the cockpit, adjust helmet and goggles, and fire up.

The *Charger* is soloed from the rear seat because, as Ed explains, he wanted to put the disposable load (the passenger) right on the c.g. so it wouldn't affect the balance either way, solo or dual. To make access to the front cockpit a non-acrobatic feat, he moved the top wing forward enough and swept the wings back to keep the center of pressure and center of gravity together.

Strong as she is lovely to look at, the *Charger* is well stressed for aerobatics, from +6 to -4.5 G's, but, as Ed says, when somebody asks whether she's fully aerobatic, he replies: "Well, are you?"

This is not the kind of ship you want to see some ham-fisted jerk slam all over the sky thinking he's being a bird. A gooney bird, maybe, but certainly not one capable of graceful, sweeping flight.

After shooting a roll of film from the front cockpit, I was delighted when Ed yelled for me to go ahead and play. So, a shallow dive to 120 IAS, back on the stick, nose up to the horizon, and then through a sweeping arc, climbing through the top half of a lazy eight well past vertical, to roll out through the other half of the 8.

In that maneuver the *Charger* came to life, its responsiveness finger-light, its power more than ample to go on through an endless variety of maneuvers, like I wanted to stay up there all day having fun.

But there was work to do, pleasant work, trying stalls (gentle, good warning, with full aileron control, even with the stick full back, and a relaxing recovery). Quick to snap into a steep turn and recover from same, visibility good, except for the normal wing blockage from the front seat, reminiscent of the Stearman PT-17.

Power off, she glides easily with ample forward vision over the gently sloping cowl to see all the runway you want on final approach. And landing it is simply a matter of holding off, waiting for her to three-point in a 40-mph stall. She rolls to a stop in under 300 feet, about the same distance you use on takeoff.

So what's exceptional about the *Charger*? You might as well ask what's so exceptional about the *Mona Lisa*? The gal with the funny smile? Both hold a secret, and you'll never be satisfied until you know what it is, which you never will. Thus, each flight is a challenge, to find out the secret of why you're so darned happy up there, the cares of the world gone. If you got troubles, don't spend money on a shrink. Put it in a *Charger*, the secret of happiness!

You see, I've still got euphoria, after that single visit to Flabob, which is a kind of yesterday airport where you run into real sky lovers from a forgotten era. There I was, sitting at the airport cafe with Ed and two other old timers, listening to all the wonderful lies.

"Knew a feller had this old Hall-Scott airplane engine," one was saying. "Darned thing would run forwards or backwards, either way. Well, he busted up his plane and so he stuck the engine out in the barn, hooked up to grind wheat. She started running backwards, and before he could get her stopped she unground three bushels."

Ed was doodling on the tablecloth, giving me the specs on his *Charger*: Span 24 feet. Length 20 feet 6 inches. Height 7 feet 3 inches. Gear tread 6 feet 6 inches. Total wing area 170 square feet. Chord 45 inches. Sweepback 10 degrees. Dihedral and incidence 1 degree upper, 2 degrees lower. Empty weight 1,035 pounds. Gross weight 1,600 pounds.

She's got a retractable landing light and a genuine red rotating beacon, nav and panel lights, and a 12-volt battery, but Ed thinks if you left all that stuff off she'd really be a bomb. Right now she'll top 125 mph. Her best angle of climb is at 65 IAS, which gives you 1200 fpm solo, he says.

Naturally, we asked Ed how he got into the business. It all started, he related over coffee, when he started building B-24's during the war at Henry Ford's Willow Run plant. He got into the Navy for three years as an aviation metalsmith, served with Squadron VB-85 (dive bombers) and ended up on the Shangri-la.

After the war Ed settled in the Philadelphia area, working on a variety of ships like the Fairchild Packet, and ended up on the west coast in 1958, opening his hangar at Flabob and specializing in antique restorations, structural repairs and such.

All this time Marquart had been dreaming of the perfect airplane, and slowly the concept took shape. It had to be a biplane, the wings had to sweep, it had to have this go-to-hell racy look, and soon, there it was.

"You don't design something like the *Charger* on the back of an envelope," Ed says. "It takes time."

Out in the hangar we walked around on a tire-kicking mission, whistling at this and that. Goodyear disc brakes ... full swivel tail wheel ... elevators both statically and aerodynamically balanced ... Frise type slotted ailerons ... steel tube fuselage with aluminum stringers and metal side panels, easy to remove ... all controls actuated by push-pull tubes on ball bearings. The wings, Ed pointed out, are built around solid spruce spars and trussed spruce ribs, covered with Ceconite and enameled a pretty yellow trim.

You could go on and on admiring the *Charger*, but the only way to evaluate an airplane is to fly it, and there's where I fell in love. Flying back home, in my own Cessna 170 ragwing, a ship I'd come to love, I felt a twinge of conscience about my open admiration for this seductive beauty out at Flabob. I don't think the 170 would ever speak to me again, though, if I sent Ed \$75 for a set of plans. So you do it for me. P.O. Box 3032, Riverside, CA 92509.

125-hp Lycoming O-290-1 swings a metal McCauley prop, a combination that gives smooth performance in cruise or aerobatics.

