

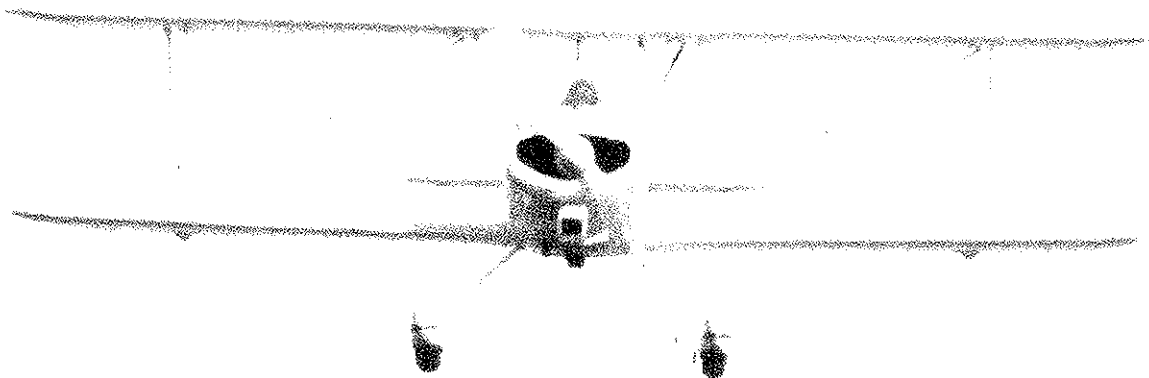


## PILOT REPORT:

# MARQUART CHARGER

Text by Bill Turner

Photographs by Bill Turner and Bill Cox





THE FIRST DAY that Ed Marquart's MA-5 Charger prototype took to the air, even though eagerly anticipated, was anticlimactic when it finally arrived. After all, how could enthusiasm be sustained at a fever pitch for over seven years—the time taken to engineer and build the Charger. Everyone expected something exciting—fireworks, bands, cheering. But that's not the way it happened.

Before we get to that flight and the airplane itself, a bit of background. First, who is Ed Marquart? He's too complex a personality to capture in a few words, but the first and most obvious characteristic to anyone who meets Ed is his unbelievable memory. No detail related to any aircraft he has seen, worked on, flown, read about or even heard about, ever escapes his amazing retentive powers. He can talk—and does so at the slightest provocation—for hours on any subject. This oratorical facet of his make-up probably is one of the contributing factors to the seven long years between the original concept of the Charger and its initial lift-off.

Ed has a large hangar and workshop at the fabulous Fla-Bob Airport near Riverside, California. He is surrounded with such neighbors as Ray Stits (Playboy), Lou Stolp (Stardusters), Art Scholl (the upside down professor), Clayton Stevens (Stevens Akro), Glen Beets (they say he can weld plexiglass to Kleenex), Mac Riley (he wrote *Tiny Bubbles*), and the instigator of all this madness, Flavio Madariaga, Fla-Bob proprietor.

The Marquart hangar is something equivalent to a living

museum. It is piled high inside and surrounded outside with the skeletal remains of antique aircraft awaiting eventual return to life under the qualified hands of the master. It will be many years before some of them feel the exhilarating pressure of wind under their wings again, but when that happy day arrives, they will be gorgeous and—of extreme importance to the pilot supported by those lifting units—expertly put together.

As one might surmise from the Charger's designation, MA-5, there have been four other Marquart designs to precede the latest off the boards. One of the others, the single seater MA-4, is currently available in plan form, but Ed has never felt that he had the exact combination he was seeking—until now.

Purely by good fortune, I was seated in the Marquart combination workshop/lecture room one day a few months ago. In lieu of devoting his time to an urgent project, Ed was holding class for a group of admiring students who were enthralled with some obscure historical point he was detailing. The discourse was interrupted by shouts from outside:

"Ed—ED—Dan's up in the Charger."

"Dan" is Dan Fielder, school teacher and amateur builder of airplanes who, with infinite patience, built the prototype Charger under the guidance of the designer. For several weeks prior to this red-letter day, he dutifully had been conducting all preflight tests, continually resisting the impulse to jam the throttle forward and head into the wild blue. The temporary airworthiness certificate had been issued weeks before, but the cautious Marquart had continued to insist on all systems being go before lift-off.

Ed raced out of his hangar toward the runway looking expectantly toward his informant, Dean McCarty.

"You mean he hit the brakes too hard and he's up on his nose?"

"Hell no, he's up in the air."

Sure enough, as we all turned our eyes skyward we picked out the graceful swept-back wings of the Charger as it climbed upward in a sweeping turn.

"Oh no," moaned Ed, "I was to have flown it first. Oh, well, nothing I can do about that now. Sure looks pretty, doesn't it."

Dan landed and started a staccato-like explanation of the unheralded take-off:

"Honest, Ed, I had no intention of flying this thing. I was doing high-speed taxi tests and the little jewel just wouldn't take 'no' for an answer. Before I even knew what had happened I was climbing out. Ed, she just flies herself. I don't think we need to adjust a thing." And on he talked, for hours, such was the excitement of the successful culmination of seven years' labor.

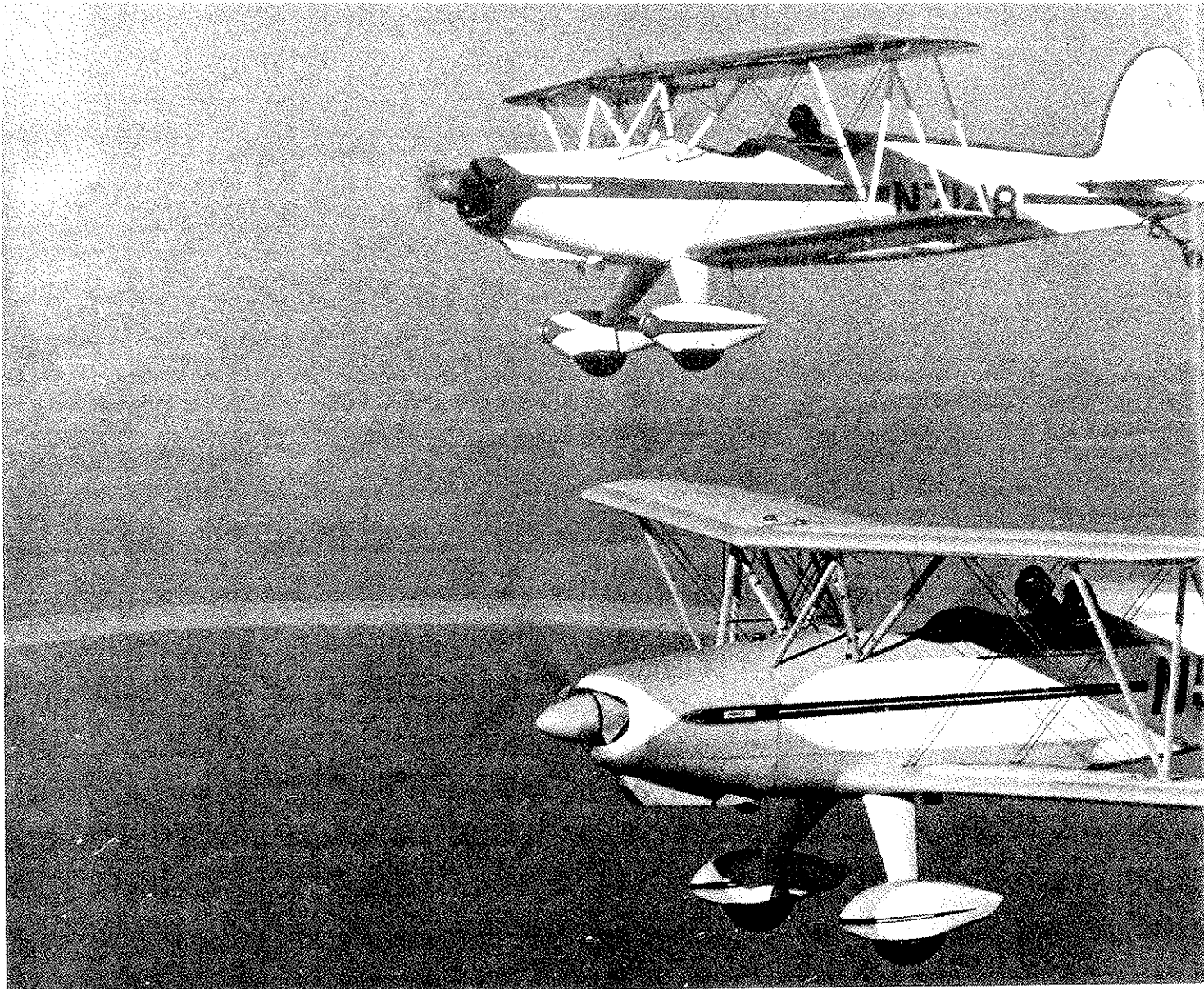
A few days later it was my turn in the barrel. This first go was short. Nothing more than a stall or two, a couple of wing-overs, a fast pass down the runway and three landings, but what an impression it left on me. It's a clean, smooth biplane that does all of the pilot's work for him. I've never had such a sensation of being a passenger while supposedly flying an aircraft. One just thinks:

"I'd like to do a wing-over to the left."

"Yes sir, the airplane says, to the left, sir," then does it with no effort.

Then came the landing. Nobody will believe it until they try it. All I did was pull back on the throttle, line up with the runway, move the elevator trim wheel a quarter turn and sit there. I could have climbed out on the wing and watched, since I wasn't needed for anything else in the cockpit! The ground effect took care of the flare, raised the nose to a three-point attitude and, "squeak," we were rolling out.

A few weeks later I was afforded the opportunity of really finding out what the Charger could do when called upon to perform. One must keep in mind that this is no Pitts Special when it comes to blinding, flashing performance. It wasn't designed to compete in the international professional leagues. It's a two-place airplane intended for the sport-minded pilot who loves the singing wires and wind-in-the-face of open-cockpit, biplane flying, but has neither the hankering nor the proficiency to challenge Art Scholl or Bob Herendeen. It will



*The entire Charger fleet in the air. Prototype MA-5, N5491, in the foreground, has a 125-Lycoming for power, and N7148, the second model, has a 125-hp Continental. Below: Builder Dan Fielder (left) and designer Ed Marquart.*



gracefully perform all the standard aerobatic maneuvers with a built-in margin of safety designed to help the average Sunday pilot return home to wife and kids in spite of himself.

My chance to really ring it out came one morning as I was busying myself on a project in Marquart's shop. Ed was off chasing down a cache of antique airplane parts in a Los Angeles garage. In strode Dan Fielder looking like a Hollywood version of the fearless pilot—helmet, goggles, leather jacket, parachute and a determined expression:

"Today I try the first spin test."

"That should be fun, Dan I envy you."

"Right, it should be fun. I think I'll go adjust my parachute straps."

This was about 8 a.m. Around nine he was back:

"Well, I think I'll try the spin tests. Guess I'd better go adjust the seat belt."

"Good idea, Dan, it must be real tight for aerobatics."

At ten o'clock he was in the workshop again:

"Bout time to try the spins. Perhaps I should look the controls over first."

"That's always a good idea, Dan."

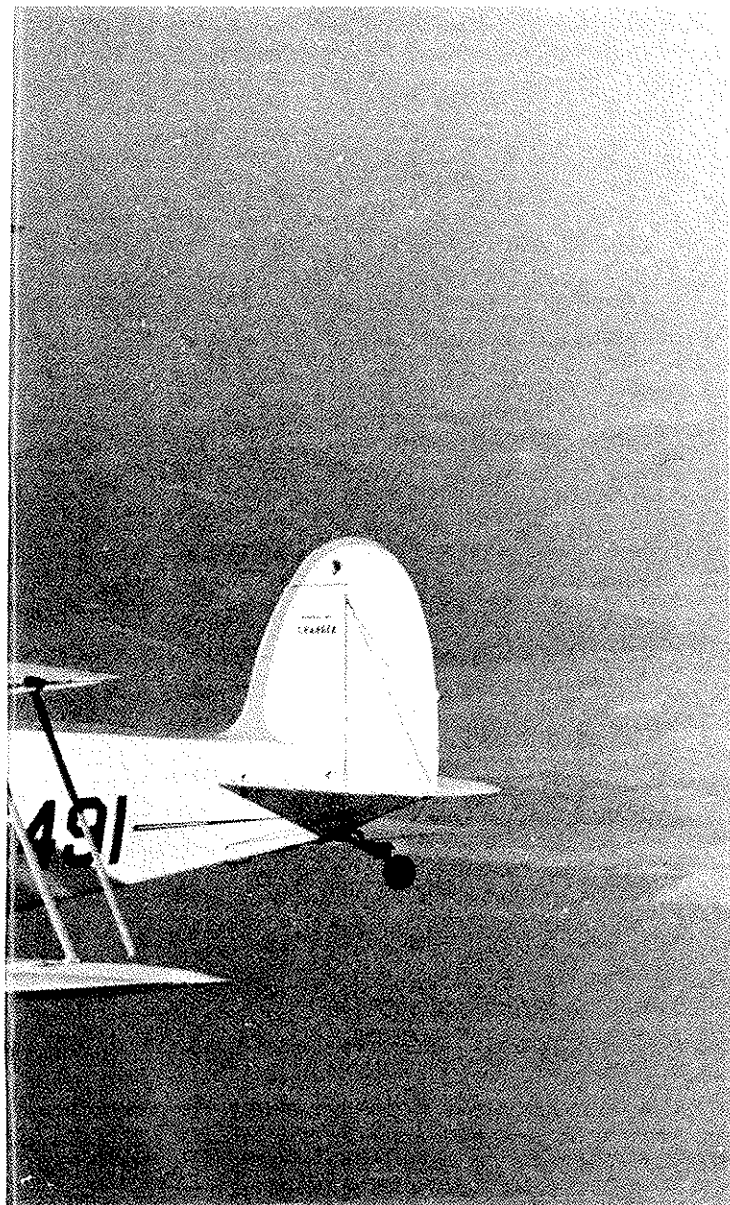
Eleven o'clock arrived and so did Fielder.

"Dan, would you like to have me try the first aerobatics in your plane?"

"WOULD YOU?"

"I'd love to as long as you understand that should





circumstances reach the point of decision between saving my life with the parachute versus a remote possibility of saving the aircraft by staying with it, I'll decide in my favor."

"Bill, that's exactly why I'd like you to do it. After seven years of living with every nut and bolt in this ship, I might wait a little too long rather than abandon her."

So off I headed into the usual cloudless summer sky of Southern California. At a steady 85 mph and 1,000 feet per minute climb, I cleared the smog layer around 3,500 feet, leveled off at 5,500 and headed for the aerobatic area at 2,350 rpm, which produces about 115 mph.

For a starter I elected to carry the stall to an extreme, watching to see of the Charger would try to spin by itself. The throttle was closed, the nose raised to a steep angle, the stick came all the way back and there we sat. I waited for something to happen. There was an almost imperceptible shudder, then nothing. The stick was full rear, the nose in a three point attitude—what was happening? I shot a glance at the airspeed indicator—35 mph—well under Dan's redline! I looked at the rate of descent—we were sinking about 1,000 feet a minute. I could have just sat there all the way to the ground and survived with probably nothing more than squashed landing gear and a darn stiff jolt.

Back we climbed. I kept trying to convince myself that this had just happened. I had moved neither stick nor rudder in corrective action. Amazing! I tried it two more times, it was so much fun.

Next the spin. I eased the power off, lifted the nose up, the stall arrived (by paying close attention now I could tell when it happened), I booted hard right rudder, the nose swung lazily around and pointed steeply downward. I immediately released rudder pressure and centered the stick, since on this first effort I only wanted to check the entry characteristics. The whole maneuver used up about a quarter of a turn. The next try I let it go half-way around, then a full 360 degrees, then two turns and finally four.

To call this maneuver a spin in the Charger may be stretching semantics. It's really more of a tight, completely controllable spiral. When I was ready to come out of the four-turn-go, I eased off only the rudder, keeping the stick full back. Immediately the twirling action stopped, the nose swung upward and I was back in that strange, gently sinking stall.

Then two loops; a tight one and a big sweeping one. 120 mph entry took me over the top with ease. What a delight.

A slow roll to the left: the ailerons respond quickly, only a light pressure is needed on the top rudder to hold the nose in position. Centering the stick produces a precise stop. I followed with one to the right, going one-and-a-half, and stopped inverted. I glided for about 30 seconds with engine windmilling, then completed the roll and climbed to regain altitude.

Gaining real confidence in this responsive machine, I rolled inverted again, nudged the stick back and headed straight down. At 185 mph, I pulled out. All control pressures were still very light.

The snap roll was next. I slowed to 85 mph, popped the stick back, kicked the rudder and around we went, not lightning fast, but highly controllable. The ship can be stopped in any desired attitude by neutralizing everything.

Those swept-back "Helldiver" wings were more than I could resist. Overwhelmed by an Errol Flynn urge, I cocked my head for the best camera profile, did a half-snap, then straight down, up into an Immelman, rolled twice, spun again, looped a few more times and the wicked Richard Barthelmess, wearing a black helmet, was in my sights all through the sequence.

It's been a long time since I let myself go in an airplane. I don't recall it being so easy in an N3N or SNJ. I know it wasn't in an F4U. After all these years, to muddle through such aerial shenanigans without disastrous consequences could mean only one thing—it wasn't the pilot, it was the airplane. I found no unpleasant handling characteristics; indeed, from take-off to landing it is an aircraft that is obviously trying to please—a flying tribute to Marquart's design.

It's not a difficult plane to build but, as in anything worthwhile, to do it right will take time. The rewards are unbelievable, so, if you want to fly the Dawn Patrol with confidence and ease, contact Ed Marquart, P.O. Box 3032, Fla-Bob Airport, Riverside, California 92509.

#### MARQUART MA-5 CHARGER

Price: n.a.

#### External Dimensions:

Wingspan .....	24 ft.
Wing area .....	170 sq. ft.
Length overall .....	19 ft., 6 in.
Height overall .....	7 ft., 6 in.

#### Weights and Loadings:

Empty weight .....	1,050 lb.
Gross weight .....	1,600 lb.
Useful load .....	550 lb.
Power loading .....	12.8 lb./hp
Wing loading .....	9.4 lb./sq. ft.
Seats .....	2

#### Power Unit:

Lycoming, 125 hp.

#### Performance:

Cruise speed (75% power) .....	115 mph
Stall speed .....	38 mph
Rate of climb; gross SL .....	1,100 ft./min.