



Photo Courtesy Remo Galeazzi

The Chicken House Chargers, Jim Smith's N26JS, left, and Remo Galeazzi's N23RG.

CHICKEN HOUSE CHARGERS

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I think it all started when I was about seven or eight years old. Santa Claus had brought me one of those ubiquitous model airplanes that were imported from Japan in great numbers in the late twenties and early thirties. You old timers will remember that they were cleverly constructed of wire, neatly soldered and covered with doped silk. I later realized that just about everything was wrong with the model aerodynamically, but nevertheless at the time it was a marvelous thing for me to behold. I would wind the rubber motor as tight as I dared and with the help of a shove I'd watch the thing careen down the gravel path hoping that something would happen to make it fly. But it never really did. There would be a great burst of power, but just as it seemed about ready to lift, the thrust would be dissipated, and it would just sit there quivering, until the motor wound itself out. I contented myself with this state of affairs until my brother, who was older and wiser than I, came up with a partial solution. He

found a two by ten plank about ten feet long and laid it on the front steps, thereby creating a runway with a built-in inclination of about 20 degrees. Now gravity was on my side. With this type of launch, the model would shoot down the incline, catapult off the end of the plank, and actually become airborne for five or six feet, at which point the power would fizzle out and it would sink straight down and smack the ground in a rather haphazard three-point landing. But, alas, that's all it took. That small model turned a normal, rational little boy into a fanatic! Ever since then airplanes have been, I'm not ashamed to say, an all-consuming passion. The "all-consuming" part draws a remark or two from my long-suffering wife — but, after all, I point out righteously, I could have become a barfly!

Anyway, the die was cast. I can remember walking three miles to the Ben Franklin store, my hand in my pocket clutching the dime that would buy me a box full of dreams. Remember those ten cent solid model kits? They came in a plain box with the name of the airplane stamped on the end. I'd pour over those boxes for what seemed like hours until I picked the name that sounded the most exotic. Then I made a point of not

opening the box until I got back home to heighten the suspense of whether I had made a good decision or not — sort of like leaving a rock in your shoe because you knew that it was going to feel so good when you took it out. Anyway, I would run until I got a hitch in my side, then walk a while, then run some more until I reached home, at which point I would throw myself on the front steps, exhausted.

This was the exciting moment. After all, who knew what a Pfalz or a Halberstadt, or an Albatros was in those days? But whatever it was, it was an airplane! What you got in these dream boxes was a small sheet of paper with three views, enough balsa sheet for wings and empennage, a block for the fuselage, and, if I remember correctly, a piece of bamboo that you could split and use for struts. And maybe a pair of hardwood wheels. The neatest items of all, though, were those three glass vials, sealed with a cork and wax, that contained two colors and glue. Then with a single edged razor blade begged from my father, I would do the best I could to fashion a facsimile of what the plans showed. Frankly, I don't remember how well I succeeded, but I can recall that I made a good many trips to that Ben

Franklin store — enough so that before long I knew all of those World War I planes by heart.

After that came the stick models, then the flying scale models that never flew and the Wakefield models that flew too well. Then my first gas model when I was 14 — a Quaker Flash powered by a "Mighty Midget". As near as I can trace it, I believe that this period was when my intellectual development came to a virtual standstill. I can remember propping my book up so that the teacher couldn't see what I was doing (I was taller than most of the students, so I sat in back). I still have some of those drawings of homebuilts (thanks to my father) that I did in those days. They were mostly parasols, looking somewhat like Pietenpoels — but I'd draw in motorcycle engines, probably because I knew what they looked like. I alternated between drawing homebuilts and looking out the windows, daydreaming about flying what I had just created. I would fly past the school (three rooms, back then), at close to ground level so that everyone could see me, then swoop to a landing on the ball field next to the school and taxi up right near my classroom so there was no question as to who it was. I would then hop nonchalantly out of my airplane, take off my helmet and goggles, and sort of lean against the cockpit as though what I had just done was nothing, just nothing at all. Ah, the looks on those faces! The amazed but proud expression of my teacher! Yes, these were heady thoughts indeed.

But it would be a long time before I would actually learn to fly a real airplane. It took three years in the Army and the G. I. Bill to bring that about. I got my private license in 1946, and even though a great deal of the glamour had left flying by then it was still one of the major highlights of my life. After that first solo, I remember I tried leaning nonchalantly against the airplane, just as I had so many years before in my imagination, but it didn't seem to impress anybody. I still do it occasionally, and it still doesn't impress anyone, but in my mind's eye, I see it another way.

There were several years of intensive flying after the war, which included time in most of the lightplanes of the day. Among them, the one that really pleased me the most was a Stearman that was used for the commercial course I was taking at the time. I got to fly it for 25 hours, and that really reinforced my liking for biplanes.

As a youngster I used to walk through the salt marshes for miles, just to sit on the cracked earth of our little hometown airstrip and gape at the Waco 10s and Travel Airs and the demi-gods that clambered in and about them. To a twelve-year-old this was the big time back then. I can still conjure up the de-

lightful vision of a Waco gently sideslipping over the eucalyptus trees that grew near the Kentfield railroad station, and hear the soft popping of its OX-5 until it touched the salty earth. I always get a little irritated when people ask me why I chose to build a biplane. I realize that it is an anachronism, and I'm always at a loss to explain to these people what a biplane makes me feel like. The answer, I suppose, is that I can't. Unless, of course, I'm talking to one of you, but I don't really need to explain then, do I?

At long last, I had gotten to fly a biplane — but then something happened that really altered my lifestyle. I met this girl, you see. I was obsessed for the second time in my life. Of course, I married her, and that was probably the best thing I ever did. First things had to come first, however, and since flying never did come cheaply, it had to be put on the back burner. Then came a house, then my daughter — whom I call the ultimate homebuilt. A jewel of a girl, she soloed at 16, but has since given it up for other pursuits.

I started flying again in about 1964, gaining a glider rating while I was about it. It was then that I joined the best organization in the world, the EAA. This was what I had been searching for all along. All of those years, in the back of my mind I had thought of building my own plane — but how to go about it? I didn't know how to weld, I knew nothing about wiring (and I still don't), I had never worked with fabric and terms like 4130, 2024, etc. were completely foreign to my ears. I joined my local Chapter 124 and found myself immersed in the world of real airplanes: homebuilts, biplanes and antiques. I was back with my own kind again. Our Chapter was just two years old when I

joined, having been chartered in 1962. We've come a long way since then — from a membership of 12 or so when I became a member, we now run about 175 souls by the end of each year. We have been able to secure a long term lease on county airport property on which we have financed and built our own hangars, but that's another story.

Even though the possibility of building my own plane was beginning to look a little more feasible, I was still reticent. For one thing, I was still doubtful that I could learn the basic skills needed, such as welding. After all, one's life depended on it. Also, I had always wanted to build a 2-place biplane, and there wasn't really a great deal of choice at that time. What were available were fine aircraft, but the lines just didn't appeal to me, and designing my own was out of the question.

All of this changed when I saw Ed Marquart's MA5 Charger in 1971. This was it! "That's what it should look like," I thought excitedly. "That's the way I would have done it!" I went home that night thinking about that airplane. Yep, that was the one all right. But could I do it? Well, after days of soul-searching, I decided that no, I probably couldn't. I'd start it, and then it would end up like the rest of those ads in the journals. "Biplane, on the gear, 50% finished." Well, so much for the great airplane builder.

Then something happened at our next Chapter meeting that changed my life profoundly for the next 9-1/2 years and forevermore, for that matter. The man up there sent me an angel! Everybody was asked to stand and tell the group what they were building or intended to build. This guy stands up and says that he intends to build a MA5 Charger! I didn't even think that any-



Photo by Jack Cox

Remo Galeazzi and his Charger at Oshkosh in 1982.



Photo by Jack Cox

body in the club knew what a MA5 Charger was!

We introduced ourselves and started talking about our aspirations concerning the Charger, the possibility of buying plans, and most of the things homebuilders talk about when they talk about a plane they mutually like. Now, you've got to understand that I didn't know at this point that I had an angel virtually in my grasp. It's pretty hard to recognize an angel right off the bat. When this fellow informed me that he had all sorts of tools and would share them with me, and would show me how to weld, and that I shouldn't worry about building the Charger because between the two of us it would be a piece of cake — well, I kind of backed off. But then something happened. I hate to say this, because to a Charger lover it's pure sacrilege, but there is something about a Charger that I don't like. I'm going to say this "sotto voce" so Ed won't hear me. I don't like the leading edge of the vertical stabilizer (fin, to us oldtimers). I threw this out to Jim Smith just to see what he would say. He agreed with me! Now when a guy agrees with you on such a fine point as that — well, you just know that you've found yourself an angel. A crusty, hard-nosed curmudgeon of an angel, it turns out, but an angel nevertheless. We met and talked several times during the next week, and Jim decided to drive down to Flabob the following weekend and talk to Ed Marquart personally — and perhaps get to see the Charger. If everything looked all right it would be "go" for both of us. It turned out that Ed devoted a good part of the day talking to Jim, who had driven all night to get there, and topped it off by giving him a ride in the Charger! When Jim returned the following day he

had a set of Charger plans tucked under his arm. I took a cursory look at the prints and thought that it all looked pretty complicated, but Jim said to go ahead and order mine, so I did. I thought I heard him say something about a "piece of cake", but I wouldn't swear to it.

When I received my set of plans, which I will say right now are so complete that it makes your hair hurt, I took more than a cursory look. I had never seen anything like this before! Anybody who would start a project like this would have to be nuttier than a fruitcake! Jim lives about ten minutes from my house but I made it in five. I don't remember if I said anything when I walked into the house, but I do remember dropping the rolled-up plans on the couch, then putting my head down low so that I wouldn't faint, and with tight lips, explained that anyone who contemplated this sort of thing ought to have his head examined first.

Well, needless to say my angel came through. "One sheet at a time," he said, "one sheet at a time." By the end of the session he had me convinced that if I took one sheet at a time, and built everything on that sheet, that by the time I got to the last one the airplane would be finished. Oh, how naive I was! It wasn't until five years later, when I completed the last sheet, that I realized that even angels can tell a little lie now and then.

The first crisis over, Jim and I drove down to Sears Roebuck and I bought myself a drill press, a combination belt and disc sander and a band saw. Then to Victor for a welding outfit. It took me several days of searching, but finally at a second hand store I found a 30 to 1 geared reduction unit which, coupled

with several pulleys, enabled me to reduce the band saw speed to the required 180 feet/minute or so to cut steel. I already had the regular complement of hand tools that one would normally have around the house. Jim already had all of the tools that he needed, and then some. The "and then some" is what he so graciously let me use during the entire construction of the aircraft, and still does when an annual or needed repair comes up.

The next step was a ride to a supplier where we purchased several planks of spruce, birch plywood (we used birch, mostly, instead of mahogany), aircraft nails and glue.

It took us from very early one Sunday morning until late that evening to rip all of that lumber into capstrips — but we cut enough that day to build all eight of our wing panels. We started out in our respective garages — Jim in his rather smallish 1-1/2 car unit, and me in my one car cubicle. We had built substantial tables that would accommodate the wing construction and later, when the time came, the fuselage. There wasn't too much room left, what with the band saws and drill presses. The ribs were made up in short order but then the moment of truth reared its ugly head. The wing fittings were next, and that required welding.

I'm not going to go into a step by step dissertation of how my angel taught me to weld, but suffice to say that he succeeded in doing just that. With much patience, and some admonitions that this angel could only have learned from the devil, he was able to do what I thought would be impossible. I can tell you now that by the time I got to the really important stuff, I felt as comfortable with a welding torch in my hand as with a toothbrush.

It took us about six months to construct our wing fittings as at that time they weren't available in kit form. There is some satisfaction, of course, to be able to say that you built every part of your creation yourself as Jim and I did. But for those contemplating building a Charger I would surely opt for the Ken Brock fittings. They are beautifully made and will save a ton of work.

Now a real problem arose. As the wing panels were completed we just simply didn't have room to store them. As each panel was finished, it was placed in our respective living rooms, until the entire set of four were stacked on their leading edges in back of the sofas. Now, to say that these proceedings were looked at askance by our wives is to make the understatement of the year. Karlita, Jim's wife, and Anne, my wife, are really very understanding gals, but there is, I suppose, a limit to anything. To me, a wing is a thing of beauty. To my wife, it's a thing. She did admit to me that occasionally those

things came in handy as conversation pieces, though. You know how it goes: you have some company, they ask what those things behind the sofa are, the wife says that they are wings and that her husband is building an airplane, and that's usually good for fifteen minutes. Eventually, though, the time came to start thinking about finding a larger workspace, although the girls gave us another year or so of grace to complete the fuselages.

It was during this period that Jim started pulling ahead in construction, and this turned out to be a great advantage to me. He still claims that I did it on purpose, but the fact is that he's simply a faster worker than I am. Whenever a sticky problem arose, I'd either call or take a ride over to see how my angel did it, and the problem was solved. He has a special knack for spotting the essence of a difficulty and reducing it to a simple task, and the many jigs and work aids he designed were a great help. He says that I probably would have resolved them myself in time, but I know better. We finally had the basic fuselages done, the landing gear, motor mounts and other various parts such as shocks and seats. Oh yes, the struts were completed at home, too.

In the meantime, Jim and I had been looking for some space to rent, possibly large enough to erect both Chargers for rigging and so forth. Well, there were some at \$450 or so a month which to us was out of the question. Then a little light shone through. We heard of a fellow about 7 miles out of town who was going out of the chicken business, and was going to rent out his empty chicken houses for storage. We took a ride out, and sure enough we found a building that, while not perfect, would certainly fit both our needs and our pocketbooks. It turned out that our new landlord, Al Anderson by name, was a former B-17 and B-29 instructor, and he welcomed us with open arms. The only sad note when I completed the Charger was that I knew I would miss Al's daily visits to the "Charger Factory", as it became known. Through the years we solved many of the world's problems with Al in that old chicken house. I still drop by occasionally to see Al and his lovely wife, Marie, to talk airplanes and solve more of the pressing problems of the day.

We had a time, Jim and I, in that place. We brought in some old heavy work tables appropriated from a defunct military base. We put up a number of shelves, and plugged in an old refrigerator that Jim had in the garage, while I brought in my drill press, bandsaw, sander and grinder. The crumbling cement floor slanted, the roof leaked, and in the winter the wind whistled through the knotholes and spaces between the boards. But it was lovely.



Remo's N23RG in flight.

Photo Courtesy Remo Galeazzi

We saw more of that chicken house than our own homes for the next five years. There were times, during prolonged winter rains when the ground was well soaked, that a strange odor issued from the broken concrete. It got to smelling like a chicken house again. I swear that to this day when I'm working around my Charger, just for a fleeting second I get a whiff of that odor again. It's got to be my imagination, but it truly seems to be there.

We calculated that by leaving the tails off, we would have enough room to put both Chargers together at the same time, and indeed, it did work out that way. Oh, what a beautiful sight that was! A biplane just isn't anything until you get both wings on it, and that 10 degree sweepback looked so pretty. Early on, my angel had decreed that there wouldn't be any sheet metal screws on these airplanes, and no overlapping panels, either. All sheet metal panels had to be butted. Well, that's the way they are, and all of the screws are stainless and countersunk with fiber nuts where accessible, and nut plates where not. It was frustrating, though, because everytime we took the things apart they never seemed to go back exactly the same way again. We never really solved that problem, either, but when we put them together for the final time a couple of years later they seemed to fit pretty well. I suppose it's all in the way you hold your mouth.

By this time, Jim had gotten even farther ahead of me, but again, this helped me a great deal as I was able to learn from his work — since by the time I got to a particular stage I would already know how to proceed.

We finally reached the point where we had to completely dismantle both

aircraft so that we could sandblast and paint all of the steel. Even though this was a communal effort, it still turned out to be a very nasty job. I hadn't realized that I'd fabricated so many parts throughout the years, and I never had an inkling that round tubing had so many sides! We must have gone through a couple of tons of sand, which was deposited in about equal amounts at both ends of the chicken house, plus our noses and ears.

We used two coats of epoxy on our metal parts and fuselage and to date it has held up well and still looks very pretty. We were finally putting our Chargers together for the last time. It was during this stage that my angel decided to bring his project back home so that he could have the work closer at hand. It was a good move, and one that I would have made myself had I the room to do so. Anyway, I wasn't left to my own resources as we continually visited each other and my work was well monitored. Those evenings and weekends were lonely out there, though, and I sort of missed having my angel looking over my shoulder. About a year after Jim left the chicken house he was ready to bring his airplane out to the airport for assembly and rigging. He had done a beautiful job of wiring and plumbing his Charger, as only he could, and the covering and paint job were super. The day we loaded everything up on the flatbed for the trip to the airport was the culmination of 8-1/2 years of hard work for Jim, and I knew just how he felt. The first flight took place several weeks later and the Charger flew flawlessly. As for me, I was green with envy. On those balmy summer days of 1981 that sucker would buzz the chicken house while I was in there sweating my life away. It

didn't do much for my morale. But in between buzz jobs, Jim was going to all the fly-ins and winning trophies — that made us feel pretty good.

The plan was that we were both going to go to Oshkosh in '82, but it seemed that I just wasn't going to be able to cut it. It turned out that my angel was even a tougher taskmaster than I thought. He was constantly on my back. The scenario would go something like this: I'd come home from work, completely frazzled. My wife first: "Aren't you going to work on the plane tonight?" No, I'd explain, I'm just too tired. I'd throw myself on the couch feigning complete exhaustion so that she wouldn't think I was dogging it. The phone would ring. It would be Jim. "Well, what were you planning to do out there tonight?" I'd explain with just a hint of a whimper that I was just too tired to go out. Jim, unmoved, relentless: "If you want to go to Oshkosh with us, you'd best get with it." Then a case of shame would set in, and sure enough I'd find myself headed out to the chicken house. He did that to me all the time.

Then came the painting. My angel really had a time with me on that. There were times when he would just throw his wings up in the air and walk away. I finally got to where I was going pretty well, though, but by that time I was finished. Then in the spring of '82 it was time for installation of all the goodies. My angel spent days with me then, throwing himself at the work, and even enlisting some angelettes — or whatever it is you call angels' helpers. Bob Bruner of Acroduster Two fame and Eric Petersen of Starduster Too fame were both there to try and get me to Oshkosh with the bunch. It was really cutting it close to the wire, but a month or so before Oshkosh the Charger was ready to cart up to the airport.

I should mention here that when I first started my project, I had asked my cousin, Ted Babbini, if he'd test fly it for me. He's an airline pilot, and an antiquer who's flown so many different kinds of airplanes that it boggles the mind. I guess he figured I'd never finish it, because he said he would. It was 9-1/2 years later, and the Charger was almost ready, so I reminded him of his promise. He didn't blink an eye. Nerves of steel, these airline types. I now had my own private test pilot!

Time was running out. I took some vacation time to put the Charger together, again with the help of a great many angelettes. Finally I got it rigged, fairings all on, and put gas in the tank. A few adjustments to the O-320 by my angelettes and it was up to the FAA. By pure chance I was able to get a very cooperative inspector who understood my plight to come up the very next day and sign it off for flight. An hour after the Charger was signed off, Ted was flying it. Jim and I watched the landing

together, and when Jim shook my hand and congratulated me, I was so moved I couldn't speak. I didn't dare open my mouth, for I was sure I would make a fool of myself. I'd waited 9-1/2 years for this, just as Jim had waited 8-1/2 years — and what so many years before had been only a dream, came to pass.

Between Eric, Ted and myself we got the time flown off in a week and a half. The following weekend, with 25.6 hours on the tach, we were winging our way over the Sierras toward Oshkosh. What a moment that was to savor! Would anything I could ever do in my life again be this good? As I looked down on those snowy peaks, past the wings of the airplane I had built myself, I felt like shouting, "Sonofagun, Jim, we did it!" I didn't shout it, but if you really want to know, I did say it to myself.

There were seven airplanes from Chapter 124, and the trials and tribulations and the fun that we had would make a wonderful story in itself. Our stay at Oshkosh was an experience that none of us will ever forget. Everybody knows by now that Jim won Grand Champion in 1982. That's not bad for one out of two Chargers built in a chicken house. But then, wouldn't you expect that of an angel?

A word about our Chargers. Both Jim and I have never regretted choosing the aircraft since the day we started building. Now that Jim has over 200 hours on his, and I have 160 on mine, our admiration for Ed Marquart's design keeps increasing. The controls are not overly sensitive, but so well balanced and crisp that they are a joy to fly. Any excuse at all will find us winging over the beautiful rolling hills of Sonoma County. Our Chargers have become part of our families, now, with the distaff side claiming that they come first in order of importance. That's not true. But they do figure about third.

Incidentally, we did indeed change the fin a little, but not enough to alter the characteristic Charger look. We like it better, but then, who are we to say? We did such things as hiding the gas cap on the main tank, and making the wing tank caps flush. We made our own carburetor air boxes so that the air scoop wouldn't protrude so much. We used the double trim jacks from a Cessna 180, with a slide block that has worked to perfection. This was an idea from Ray Stephen, who had used the system on his Charger. Jim's Charger has a rudder trim controllable from the cockpit which I now wish I had done, too — well, maybe the next one. We have parking brakes, and controllable air to the oil cooler. We both have large baggage compartments which are practically impossible to overload. Both of our CGs are right on the forward end of the envelope so that it's possible to fill all three tanks, put two 240 pound people in the cockpits, dump 45 pounds

in the baggage compartment and still be within limits on the rearward CG. We have enough head for gravity feed if we need it, but also have an engine driven pump, and an electrically driven auxiliary. Jim designed a check valve arrangement whereby if one system goes out, the other becomes operable. It sounds redundant, I know, but when you're flying over the Rockies it makes you feel pretty good.

We both have been using Lycoming O-320 150 hp engines normally aspirated, which seem to us to be the ideal powerplant for our Chargers. We can cruise at an easy 125 mph at 2450 rpm burning about 8 gph or less on a long trip at altitude, although it seems that Jim's airplane is a mile or two faster than mine. I think that he's cheating on rpm and won't admit it. Both of us are using 74-58 Sensenich propellers which are just right for this configuration. Stall seems to be in the 45 mph range, although I've come to the conclusion that anyone hurting himself in a Charger by stalling would have to be a complete dolt. My Charger will climb 1500 fpm with just me in it, and with two it'll do 1000 fpm — but I seldom flog my engine that way.

The only disappointment has been the paint, which started cracking in the same places on both of the Chargers at 25 hours and hasn't stopped yet. It's something we are just going to have to grin and bear, as neither of us is prepared for a recover just yet.

It's been over fifty years now since I trudged over those Kentfield hills with such anticipation to buy those ten cent kits at the five and dime. Now, instead of walking to the airport, I drive; but I still have that sense of anticipation that I did as a child. Everytime the Charger's wheels leave the ground I get the same thrill as when I'd watch that little wire and silk model leap off that plank runway — and I suppose it will always be that way.

I know that this has been said by many homebuilders, but it bears repeating. By my reckoning, building an airplane is a long, time-consuming undertaking, and it takes an understanding family and a saint of a wife to see a project through to its completion. Both Jim's and my wife encouraged us to start our projects and supported us throughout the years. For this we salute them and love them, and make them full partners in whatever we've accomplished.

The whole experience, even with the frustration and sometimes disappointment that is part and parcel of building an airplane, was worth it. The EAA and my angel made it possible, and I'll be forever grateful to both of them. For those of you who are on the fence as I was all those years, take my advice: find yourself your own angel, and have at it.