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Glenn's Charger Flies Again

Story by Bob Grimm, November 11, 2010

Photos by Bob Grimm and Dallas Grimm



Glen Miltenberger's Marquart MA-5 "Charger"

In the winter of 1977 Glenn Miltenberger of rural Sloan, Iowa decided he wanted to take a shot at building his own airplane. Glenn, a farmer by trade, had his winters and a shop full of tools to craft away on an airplane project. He had owned and flown a Cessna 172 and Stinson 108 off his farm airstrip for a few years, but decided he wanted something a bit sportier! He settled on a design that was enjoying growing popularity, at the time, by west coast designer Ed Marquart, the MA 5 "Charger" biplane.

Glenn set about building this airplane from plans. He completed all four wings during the course of following couple years but ran into a problem storing the all wood wings. He had no place suitable that he trusted not to undo all the intricate work he had done to date. So, much to his wife Mary's dismay, Glenn stored the wings in the living room of the family farmhouse!! There exists many a Miltenberger family photograph of holidays, birthdays, and the odd special occasion that exhibit the Charger wings sitting in the background! It was here that the wings resided until the aircraft neared completion.

The start of the 80's saw Glenn acquire a well used and abused Cessna 150 which he parted out to provide hardware, fittings and miscellaneous items to speed his work on the project. It should be noted that about this time Air Power Museum Trustee Steve Butler, was fairly involved with Glenn, providing much appreciated technical advice & moral support.

In December of 1981, I had just gotten my first aviation job working with Steve as a fledgling A&P. It was through Steve that I had the pleasure of meeting and becoming acquainted with Glenn. At that time he was just starting to weld the basic tube structure on the fuselage of the Charger. It was

that time he was just starting to weld the basic tube structure on the fuselage of the Charger. It was fascinating to a newbie, such as me, to watch the progress and witness firsthand the highs & lows that Glenn was experiencing as the Charger progressed. It's a real tribute to Glenn that he took on a plans-built aircraft with hardly any prefabricated parts at all! I would not begin to detract from builders of today with their "fast build" kits and such. However, to see Glenn's toils with basically having to take raw materials and turn them into airworthy components, was a lot of fun as well as an eye opener as to the type of commitment builders of any aircraft have to face! As a side note, this experience gave me a glimpse into the world of the antique restorer and the further challenges that they face!

Building the Charger was basically a winter-only endeavor for Glenn as he would make great progress some months, and not so much the next few. So we move on all the way to the spring of 1992 when finally at long last, the fabrication was complete, the paper work was approved, and the time had arrived. In the warm spring sunshine of 1992 the Charger took flight! For those of you keeping track, that is a building span of 15 years.



The start of getting the "Charger" flyable after 12 years of inactivity

Glenn enjoyed the aircraft and savored not only the wonder of flying the Marquart, but also the extra satisfaction and pleasure only the builder knows. The Marquart saw a goodly number of hours logged, but actually not as many as one might expect. By the time the Charger was seeing air under wing, Glenn had also acquired a Beech Bonanza and was relying on it to do his "heavy lifting." The Marquart did see its share however. Among other trips (including Blakesburg), flight breakfasts, and just a plain old calm-evening bounce around the patch type missions. the flights were plentiful enough.

In 1994 it was to my HUGE surprise to have Glenn call me one fall day out of the blue and simply say... "You got any interest in flying the Marquart?" I was basically speechless! To say that I had lusted over this aircraft over the years would be an understatement! Coupled with the fact that I had never flown a biplane before, ever, and you can only imagine my emotions. I couldn't get to the farm strip fast enough. I got a couple of pointers from Glenn, seriously questioned his sanity (he said

"Butler says you'll have no problem." Thanks Stevie!), strapped in, and remember to this day his parting statement as he backed away from the cockpit. "It'll cost ya bout 30k if you wreck it." Well, needless to say, good sense was trumped by sheer lust and off I went! It was everything that I had dreamt and much more. How could anything be better, I thought. It flew like the beauty it was, and to this day it goes down as one of those "firsts" in a person's life that you just don't forget. I will never know what possessed Glenn to trust me with his pride and joy that day, but he did. To that end I would never be able to thank him enough.

We move on to the late summer 1998. I visit Glenn in his hospital room at Burgess Memorial in Onawa, Iowa. Things are less than cheery, Glenn looks gaunt and pale. We visit about a lot of things but as is usually the case we speak mostly of airplanes. I get up to go and the last thing that he says to me is to pass along his regrets to Brent at Antique Airfield as he will probably have to miss the upcoming Labor Day fly in. He smiled and told me that we would just have to have one in the pub for him and he would catch up there next year. I believe it was the following week on a warm August day, we attended his funeral. Cancer had claimed a decent, talented man well before his time.

Fast forward to this past June of 2010. Over the years I inquire about the Marquart with Glenn's son Roger from time to time but mostly I am told that there has been no movement and the plane is basically as parked. I offer to help if need be but mostly the world just goes on and I prove yet again that ignorance is indeed bliss. But the phone does ring one day and Glenn's widow Mary asks me to come over to see her. I get there and in the room are her sons Roger and Mike. They announce they have come to the conclusion that the Marquart needs a better home than it's current one. The family had decided to put it on loan to the Mid America Transportation Museum in Sioux City, Iowa and is there a way that I could help them get it there? I said yes, and not that it mattered, but I should have asked to see it first.





The Miltenberger family

The Marquart had been sitting in the same place it had when Glenn parked it 12 years ago in a Morton shed on the family farm. It had been parked ready to fly with its main fuselage tank full up with auto fuel(!!!) and wing tanks full of 100 oct avgas. The long dead battery was still installed and all tires were flat. There was 12 year's accumulation of dust and dirt that one would expect on a busy, working farm. Needless to say the task looked daunting but in my typical underestimation, I felt that we could have it ready to tow to the museum in a few days work. Wrong...Mary stated that under no circumstance were those wings to be removed! It was to be flown there!

Ok, now we have a whole new ball game. Mary felt that the wings couldn't be pulled and reliably put back on and rigged the way they were. I knew better but there was no changing her mind! She related that Glenn had literally spent weeks rigging those wings and they simply weren't going to be pulled! So now we have an airplane & engine that hadn't flown/run in 12 years. I felt the first logical step was to address the totally contaminated fuel system. I started by draining some very foul smelling fuel and the sight that greeted me in the bottom of the main tank was unbelievable. There was about 2-3 inches of a substance that could best be described as tar. The aircraft was constructed basically around the main tank, so removal would not be practical in the least. So I went about removing the tar by using a wooden dowel with a rag wrapped around the end. This was shoved through the gas filler neck, swirled like a cotton candy stick, and tugged out of the tank. Bad deal. as this rag had to be changed out after every dip. Needless to say this was a time killer, so a new method had to be found. My theory was that the fuel had actually possibly started to revert to its crude oil state. I put two gallons of lacquer thinner in the tank and left it for two weeks. This resulted in the tar breaking down a bit to a semi-drainable state. The tank was then filled with avgas and allowed to sit for another two weeks. This, in turn, was drained and the tank was allowed to air dry for a week. The left over turned into a thick scaly dust that I was able to blow out of the tank with a leaf blower! Conversely, the wing tanks had 100 oct avgas left in them over the years. This had turned a bit thicker, but was easily drained and allowed to dry. The results were a dust remnant that was easily blown out. It is interesting to note that I drained nearly 18 gallons of fuel out after 12 years! Capacity was 28 gallons. The lesson learned was that if you're going to abandon a fuel tank for a while, leave it with avgas in it!

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While "curing" the mess in the tanks, I tackled the rest of the fuel system. All flexible hoses were replaced. The fuel selector had the same tarry substance in it, but at least this could be removed and properly cleaned. Fortunately the fuel had been shut off to the carburetor. This was removed, disassembled and had the deteriorated parts replaced as necessary. All in all, had it not been for the tar, the fuel system would have been an easy fix.

Next up, the magnetos. It would seem that the right mag, quite naturally the one with the impulse coupling, had been left sitting in the exact e-gap spot in its rotation. Twelve years in this position resulted in its having flattened the magnets. Good friend Ben Cooper from Whiting, Iowa, being much more versed in magnetos than I, graciously volunteered to try to whip the mags into shape. After a few frustrations he did just that, and we had some great running mags as a result.

The rest of the quest to return to flight was basic airframe 101. Mice had surprisingly left the plane alone for the most part. We found some corn stored away under the seat cushions. The front seat belt was nibbled on, but not badly. And the baggage compartment was lived in some but the airplane was littered with dryer softener sheets and I believe that this served to ward the mice off, for the most part. Tires needed changing and the airplane required extensive cleaning. A new battery was installed after a bit of battery box cleanup. There was much adjusting, lubing, "tweaking" etc.



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High priority was given to flight controls and safety of flight items. In this whole affair, A&P and commercial pilot son Dallas was an invaluable asset to me. His help was sorely needed at times. As we went on I really grew to rely of him to keep me on track. As great as it was to use him as a wrench on the weekends, I also would bounce ideas off him by phone during the week. Dallas was a fresh private pilot during his senior high school year in 98 and Glenn really took a shine to him when we would drop into Glenn's place in our PA-16 Clipper. He was always tickled to see Dallas and was just one of the many great influences that I can say Dallas enjoyed in his aviation upbringing. Unfortunately that seems to be a resource that is slowly drying up (both young people AND "elder statesmen"). In a way, Glenn's passing seemed to start to bring that realization home to me. I think that is one of the reasons this project took on the life that it did and how important it became to get done.

After three months of very rare (for me!) spare time disappeared, we were ready for the flight from the Miltenberger farm to Sioux City. I had done a bunch of running in the farm yard, but the summer temps and lack of cooling airflow limited the run times due to overheating. As I had no good way to truly assess the toll that 12 years of sitting had taken, the thought of rusty engine parts slowly chewing themselves up was never far from my mind. I discussed this with the family and told them that we had managed the risk as much as possible but the possibility of this engine quitting was not to be ignored. They assured me that they were confident in my abilities (however misguided they were), and better to damage the aircraft this way than to let it slowly turn to dust at the farm. All

very comforting to the guy that would be doing said damage!

We had done all there was to do. Insurance was in place, and the Sheriff was on hand to close the road that I needed for the takeoff. Oh, did I mention that the farm strip, being highly productive farm ground, was turned back into a farm field and was not available for the takeoff? Getting the County Sheriff to close a public highway for this was surprisingly easy. I figured that it wouldn't be and was prepared to do the takeoff covertly anyway. Ultimately, that wasn't the case and the highway was available.



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"If you don't like the way I fly, get off the road!!"

I had weighed the options of waiting for fall when many more possibilities for a safer forced landing would be available, but once again the need for flying the Marquart trumped common sense, and the

scene was set. After waiting out a stubborn fogbank, it seemed that all the extended Miltenberger family was in attendance for this event (no pressure there either!). So on July 20th 2010 the Marquart took to the air once again with son Dallas in hot pursuit flying his good friend Larry Hunt's borrowed Robinson helicopter (it's good to have friends with helicopters and a kid that can fly one!)

I had a highly subjective flight plan in my head that included flybys of Glenn's gathered family and friends that had assembled down the departure road, followed by a low pass of the cemetery & final resting place for Glenn. I had contemplated a missing man formation over the cemetery, something that never got accomplished when Glenn was laid to rest. Ultimately, the logistics of doing that were too hard to put together at this phase, so were set aside. I felt at the very least though, hot running engine or not, that I was going to get a flyby of the cemetery done before heading to SUX come "hell or high water" !

Of course, all of this was in assumption that we would have a good running ship and the planets lined up perfectly. I had a delicate balance in that I had a need to make the ship as visible to family as possible without putting safety too far aside and giving myself options should this thing quit. I was talking to Dallas in the helo by radio and it was assuring to know that he was watching over the bigger picture even if I was not.



Dallas Grimm getting some PIC time in the "Charger"

Ultimately several sort-of low passes were made past those assembled and then a move on over to the cemetery was accomplished. As I went past the grave markers, it was a very poignant moment for me. All the work seemed to go to a somehow different level, and it all became a closed circle. As I really kind of relaxed for the first time on this flight, and as if on cue, I was brought back to reality when I heard Dallas key up and tell me in a low voice from the helicopter, "That looked really good Dad." I remember my finger on the mic switch but knowing the words I had practiced would not have been able to get past the lump in my throat... I just didn't say anything. That one moment, that one pass, was really special and never ever will be lost on me. This one was for Glenn.

I now totally understand the pride and depth of feeling those who do military and funeral flyovers must experience. Dallas had gotten the pass on video, and to be certain it does look good but the video will never go as deep as that feeling. I never had told any family that I had a plan for a cemetery fly by. It was an idea that I didn't want to have to later explain as to why I didn't do it for some technical reason. It was later told to me by Glenn's son Roger that he instantly knew when I headed that way what I was up to, and he said that they all really appreciated it.

The rest of the flight was fairly uneventful. I even got a decent landing in Sioux City. As Mary and I talked after this highly emotional day for all concerned, she stated that if the plane ran alright she would delay putting it in the museum and would really like it if I could take her kids Sandy, Mike and Roger for one last flight prior to putting the aircraft in the museum. So it was planned that I do some more "work"! It was my pride and privilege to do a couple of "proving hours" in the Marquart before taking passengers aloft. It was a dirty job, but somebody had to do it!



On display in the Mid American Transportation Museum in Sioux City, IA

As it turned out the engine not only behaved itself but actually was running quite well! So the plan was expanded to give rides to all the grandkids, extended family and friends, and even a few folks that had a hand in helping Glenn originally build the plane. So it went then that we flew the aircraft for an additional 15 or so hours giving rides. I am happy to say that all family members were given the opportunity to ride, courtesy of Glenn's good work, one more time! It would seem that "unwarranted low flight" was the rule of the day on a lot of these flights. Consequently, I saw a lot of happy faces turn from that front seat. There were a few moments where I witnessed passengers grow quiet and introspective, maybe even a bit emotional and that was not surprising. But for the most part, we were there to celebrate a man's accomplishment and savor a moment that was long in coming and may never come again. I found that my efforts were returning to me a lot more than I gave and in no small measure, I came away a better person.

The plane performed like it had never been away! No mechanical difficulties of any kind reared their heads and indeed in the first 12 hours of return to service the engine consumed only one quart of oil!

This is a testament to Lycoming engines and a great airframe that Glenn so obviously put heart and soul into.

After the family and friend flights, I was given the opportunity by Mary, to offer a few rides to my family which I happily did. Quite to my surprise, Mary even suggested that I get Dallas in the rear seat to fly the aircraft as well. Naturally we/he jumped at this and on a quiet Sunday afternoon, he became one of the chosen few to have ever flown N163GM! This club is known to include Steve Butler, who had a hand in the original construction, my brother-in-law Brent Taylor, Executive Director of the Antique Airplane Association, as well as yours truly. It is widely thought that a fellow Marquart builder/acquaintance of Glenn's flew the airplane once, but his name is not known to me at the time of this writing. And of course, now Dallas Grimm! If there are more, my apologies for not mentioning them here. To fly this plane is to love it, and all concerned have fond memories of this airplane.

With the onset of winter and with the mission, as it was defined, accomplished, I had the semi-sad task of moving the Marquart to the Mid American Transportation Museum on November 11th of this year. Both Mary and I thought we had perhaps pushed our luck with this engine as far as was prudent and the time to retire it had come. The move was made and I am currently in the process of "pickling" the airplane and making it display worthy at this writing. As Mary did not donate this airplane, putting it in place as a loan, the future of the plane is anybody's guess. I remain hopeful that N163GM will one day fly again. I know that some of the Miltenberger grandkids were very happy and excited to see her fly and get the opportunity to fly in it once again themselves. It is my sincere hope that one or more of them will pick up the torch and bring her out of this semi-retirement to go fly once again! For the time being though, it will serve to hopefully spark an interest in aviation for those who come see it as well as perhaps in a small way, appreciate those who build flying machines. For now that will have to do. The Miltenberger Marquart is in a good place both environmentally and esthetically. The Miltenberger family has taken a good path to preserving N163GM for the future.





Glenn's "Charger" in it's element

As for me, it was certainly a very personal and at times emotional adventure, a challenge, and a great way to reconnect with my own past. The opportunity for my son to connect with that past in such a special way was invaluable to me as well. What a great ride!

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