THE VINTAGE AIRPLANE

NOVEMBER 1982

Grand Champion Antique at Oshkosh '82 . . . Roy Redman's 1936 Stinson SR-8C.

(Photos Courtesy of Roy Redman Except as Noted)

STINSON SR-8C

FOUR TIME GRAND CHAMP

By Gene Chase

THE STORY ABOUT this beautiful 1936 Stinson Gullwing Reliant, NC17116, is really three stories in one . . . the plane, the owner/restorer Roy Redman, and a man named Olof A. Anderson. Roy Redman (EAA 83604, A/C 6600) lives at Rt. 1, Box 39, Kilkenny, MN 56052. The plane which was named Grand Champion Antique at Oshkosh '82 had previously received this top honor at three other major fly-ins — Blakesburg '80, Sun 'N Fun '82 and Watsonville '82. That in itself is an amazing feat, but considering this is Roy Redman's very first restoration job of any kind makes it all the more amazing.

(Ted Koston Photo)
Roy Redman with his four-time grand champion winning Stinson Reliant.

Olof A. "Ole" Anderson's role in the story dates back much earlier than that day in 1974 when Roy acquired the Stinson. In the late thirties Ole owned and flew a SR-8C at Fargo, North Dakota and Roy was the kid on the airport fence. On that day of days, Roy finally got his first airplane ride, with Ole Anderson in Ole's Stinson which was but five serial numbers less than Roy's NC17116, S/N 9801.

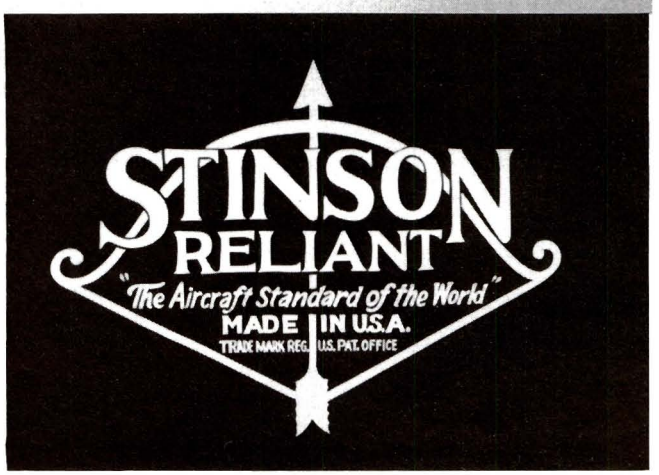
As Roy was growing up in Fargo, he never forgot that ride in Ole's elegant Stinson. He finished high school, took flying lessons soloing a Piper PA-11 in 1952, and graduated from college in 1953. He started to attend fly-ins ten years later and when he saw the beautiful Stinson SR-9s of Stan Kuck, Ralph Roznick and Charlie Bombardier his interest in pre-war civilian Gullwings started to grow.

In 1973 with the encouragement and help of friends, he began to actively search for a project. Typically he followed several disappointing leads before learning of a SR-8 for sale in Oregon. In January, 1974 Roy hopped an airliner bound for Portland, Oregon where he was to get his first look at NC17116. It was in the shop of a small airport operator, with the wings off and in need of considerable patching.

For seven years the Stinson sat neglected in an orchard near Hood River, Oregon where ice sliding from a shed roof damaged the fabric. Roy admits to being extremely naive about the whole thing. He thought it would be as simple as installing the wings, patching the fabric, fixing the Mk II, running up the engine and flying it home! Never having owned an antique, or a round engine, or restored *anything*, he had a lot to learn.

(Ted Koston Photo)

Roy flew this beauty over 6,000 miles to fly-ins, including Blakesburg, IA, Lakeland, FL and Watsonville, CA before taking it to Oshkosh '82. It trues out at 146 mph using standard cruise power settings at 5,000', providing luxurious comfort today just as it did over forty years ago.



The Stinson logo on the vertical fin.

The following month he did get the airplane flyable and back home to Minnesota with no major problems. He recalled a couple of fleeting moments enroute, when he passed over Hood River where the Stinson might have rotted away, and when he flew over the Fargo, North Dakota airport where his interest in aviation first started.

Roy Redman earns his living as a Captain with Northwest Airlines and when he wasn't flying 727s out of Minneapolis, he managed to put some 80 hours on NC17116 during the summer and early fall of 1974 including trips to Oshkosh and Blakesburg. The Stinson may have looked pretty tacky but at least Roy had his own antique with a round engine.

On November 19 a flap cable broke during retraction and this event caused Roy to make the decision to stop flying and begin to earnestly restore NC17116. That same afternoon he began to remove bolts, parts and pieces and spread them across his shop floor. Although he was sure he would remember where everything went, just for kicks he brought a notepad and pencil to the shop the next day. That's when he learned lesson number one . . . he already had trouble visualizing his actions of the day before. From that moment on, he carefully documented the complete disassembly of the plane.

That was a ritual he followed every day for nearly six years during the restoration, and when he finished he had filled two thick notebooks and had taken hundreds of slides. This documentation saved him from failure many times and also gave him a sense of security when an overwhelming feeling would hit him that he was "destroying" the airplane.

When the wings, tail feathers and engine were removed, he trailered the fuselage to his home where it took up residence in the garage after the gear legs were removed. Three months later absolutely *everything* was disassembled and SR-8 parts filled every shelf and corner in the garage.

It was at this time when the stark reality of the situation hit Roy . . . he hadn't restored anything, he had just "taken apart". He began to realize just how much time such a restoration project would require. Sitting down with his wife, Judie (who was totally supportive of the venture) they made the decision to place a high priority on the Stinson or it might never fly again. This meant that after family and his job, the plane had to come next.

In retrospect, Roy knows the time priority was an essential ingredient in the restoration of NC17116. The whole project spanned five years and nine months and 4,000 hours of work. Without Judie's patience, understanding and help the time commitment would have been impossible.

In addition to physically working on the plane all this time, Roy also researched the early history of the SR-8C. He determined that it was manufactured on 11/14/36 and sold through a Stinson distributor to the first owner, Mr. Robert F. Schermerhorn of Big Spring, Texas who operated it through 1938 as a personal aircraft. The FAA files indicate that Mr. Schermerhorn owned the Schermerhorn Oil Co. but all of Roy's efforts to locate him or his family have failed.

The second owner was Mr. Lawrence Dresser of Tulsa, Oklahoma. This Stinson was the first of thirteen planes owned by Mr. Dresser, who was an avid aviation enthusiast. He kindly supplied Roy with several original photos which confirmed that NC17116 carried the trim style of the "late" SR-8 . . . the single lightning bolt and full wing treatment used only a couple of months prior to the start of SR-9 production.

During the World War II years the U.S. Government made a concerted effort to buy a fleet of civilian cabin planes as a part of the "mobilization" effort. Early in 1941 the government purchased NC17116 from Mr. Dresser through the same Stinson distributor in Ft. Worth, Texas who handled the sale to the first owner. Such aircraft were registered to the "Defense Plant Corp." and it's rare to find a cabin plane of the thirties that wasn't "drafted" in this manner. This is bad news for the antiquers of today because most log books were separated permanently from the aircraft during those years . . . such is the case with NC17116.

One of its duties with Uncle Sam was use as a navigation trainer at Ft. Worth's Meacham Field. In 1944 the Stinson was released from government service and purchased by Paul Shaw in Iowa City, Iowa. He operated it commercially in 1944 and 1945 and in his words, "flew more charter than anyone in the area". Mr. Shaw made numerous flights ranging from Florida to the Rockies. Indeed the USA is no stranger to NC17116.

From Iowa City, the Stinson went to St. Louis, Missouri where it suffered the indignity of being repossessed by a bank. In 1948 it was returned to the Tulsa area and went through several owners until 1957 when Bryant Gilmore and John Horeth bought it. Although their experience was minimal, they had the good fortune to know Herb Harkcom who guided them through a complete restoration and in whose hangar at Harvey Young Airport the project was undertaken.

Bryant and John's restoration was well done but somewhat different by today's standards — authenticity was not a high priority item in those days. However, they did win the Sweepstakes Trophy in 1960 at the AAA National Fly-In at Oskaloosa, Iowa.

They flew NC17116 until 1962, putting some 150 hours on it. When Bryant's job transferred him out of state, they sold the plane to Bob Edling, a FBO at The Dalles, Oregon. Mr. Edling operated the plane as a personal use aircraft and an occasional charter until 1964 when he sold it to R. W. Perry of Hood River, Oregon. During the eight years that Mr. Perry owned the Stinson, he only flew it occasionally before the fabric was damaged by ice off a shed roof as described earlier. Roy Redman was the next owner of NC17116.

Getting back to the restoration project, the years at Hood River with the torn fabric had taken its toll and all the wood in the fuselage had to be replaced. A puzzle for Roy was to determine the correct shape of the top fuselage formers as previous rebuilds of the plane seemed to have lost the curved and flowing lines, especially in the area between the wings.

Fortunately for Roy, he had located Ole Anderson by this time, whose phenomenal mental recall and fabulous collection of photos of the mate to Roy's SR-8C saved the day. Between Roy and Ole and the use of enlarged Wylam drawings they were able to come up with very accurate contours. Ole Anderson is a retired Northwest Airlines captain and his involvement with the restoration of NC17116 is a story in itself which Roy promises to write at a later date.

Throughout the project Roy became so engrossed in rebuilding each little sub-assembly such as door latch mechanisms (whether they needed it or not) that his shop log shows this to be the major time consumer. The basic rebuild operations such as sandblasting, woodwork, covering/doping, etc. really didn't take so long . . . it was the small things which took an eternity.

The landing gear legs, or *beams* as Stinson called them, are a welded, heat treated box section and are mighty rugged. Roy had heard various horror stories about the necessity of a close inspection of these items so he took them to his friend, Bob Strom who operates an inspection and repair station complete with precision machine shop. Bob is one of the old timers whose experience dates back to the thirties and Roy considers him to be a real genius.

Bob pressed the tapered axles out of the gear beams and magnafluxed both sets of axles and beams. Some minute cracks appeared around the welds but he felt these were caused during manufacture in 1936 and not a result of stress. But just to be sure he tested the beams for hardness and repaired the small cracks.

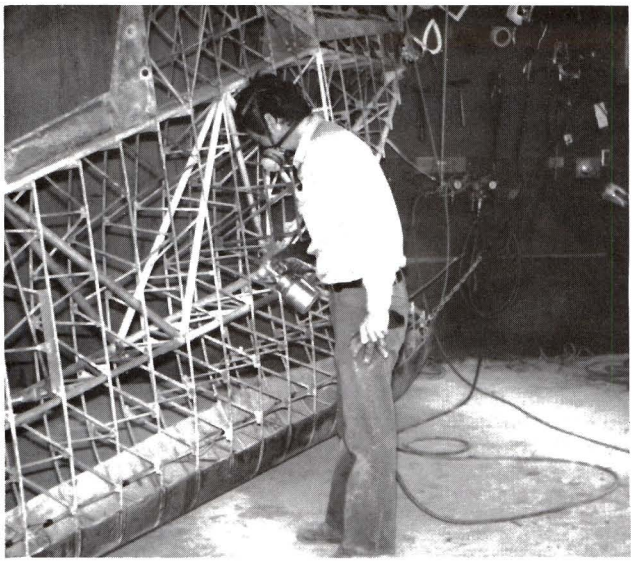
Magnafluxing also revealed some axial cracks in the tapered axles which Bob repaired by welding. He then turned them back to shape, shot peened them for strengthening, then pressed them back into the gear beams. To complete the gear work, the big shock struts were completely remanufactured resulting in a gear system that equals or exceeds factory new standards. In retrospect Roy feels the horror stories about the gear were greatly exaggerated as are most hangar yarns.

After completion of the gear work the remaining woodwork was fabricated including the door and window frames, doors, baggage compartment and side stringers. The fuselage was then ready to cover so the wings were brought into the shop.

The fuselage ready to cover.

Over the years the moisture had left its mark on the wing structure too, but fortunately the corrosion wasn't all that bad. Roy chose to sandblast the wings himself because of the nearness of the 4130 truss spars to the light aluminum square tubing which make up the ribs. He removed the fuel tanks, tip bows, butt ribs, etc. and proceeded to blast nearly a half a ton of sand on the two wing panels over the next two days. Epoxy primer was then applied, the same as used on the fuselage.

Some common, but not so wise advice regarding fuel tanks is, "if they don't leak, don't mess with 'em". Roy ignored this misinformation and checked out the tanks, finding some necessary repair in each of them. Again, under Bob Strom's watchful eye, the tanks were repaired, welded back together, pressure tested, slushed and reinstalled in the wings.



Roy priming the wings, and being careful to not damage the aluminum ribs.

From the start of the entire restoration project, Roy strove for authenticity but with an eye toward a good representation of what the SR-8C really looked like in 1936. So when it came to the covering process, instead of Grade A he chose Ceconite 101, cotton tapes and butyrate dope.

Expounding on the subject, Roy said, "There are many *right* ways to cover and finish, and this was one option. I won't say whether it is correct or that it is best, but it did satisfy my requirements. I must say, however, that synthetic fabrics make more sense on a complex project such as this Stinson. To use the original cotton for originality's sake would only add several variables, and nothing to the appearance. Original for originality's sake would also preclude the use of epoxy coating for ferrous metals, modern seals, modern glue, and if you will, modern oil in the engine. Lack of any of these would degrade longevity and add nothing to original appearance . . . certainly counterproductive to keeping the antiques flying."

Covering the wings was a normal operation. They are big and required thousands of rib stitches. They are also thick and required an 18" needle in places and the truss spar offered more than the usual obstructions to the needle. The finish was two coats of clear nitrate with dac-proofer, then six clear butyrate, four silver, and ten color with generous sanding throughout. At this point Roy thought he was close to having an airplane again, but he would miss two more seasons of fly-ins.

Roy's Stinson had a full gyro panel but it didn't leave the factory with one (few did in those years), so "return to basics" was the plan.

It may be of interest to know that in 1936 when this Stinson listed at $10,300, the blind flying group cost $1,000. That included an artificial horizon, directional gyro, vacuum pump, and alternate source (venturi) plumbing. Only the Pioneer turn and bank was standard equipment. Consider paying 10% of the cost of a new airplane today for only two instruments! It's no wonder that few left the factory with the gyro group. Most that did went to the CAA (who else?) and can be identified by the high center hump in the panel.

The useless holes in NC17116's panel were filled by welding in appropriate pieces, then grinding the surfaces smooth. Roy was fortunate to obtain a close-up photo of an original panel from Ole Anderson which was used to create the new one.

A hand wood grained finish in the original style was applied to the completed panel. Instruments of the original manufacture and series which Roy had accumulated over the years, were overhauled and installed. In 1936 the standard panel included a non-sensitive altimeter, but for an extra $184, an "airline type" altimeter (that's sensitive, folks) could be had.

The SR-8C originally had a bump cowl, but in 1949 when an E3B engine was installed, the cowl was replaced with a shortened V-77 cowl. Roy was fortunate in obtaining an original bump cowl, but then was faced with altering everything firewall forward to accommodate an original-type installation. He was able to make one acceptable dishpan out of two, one of which was in very bad shape. The boot cowl and hatches had to be made from scratch. Roy learned from this what all experienced restorers know very well, that when a change is made it always results in more changes downstream.

(Ted Koston Photo)

The Lycoming R-680 is spotless and it operates exactly per the manual. Note the mint condition of the restored bump cowl.

Although Roy replaced all the metalwork except the formed fairings and the bump cowl, the re-work of the original metal pieces absorbed the major portion of the metalwork time. He worked over 200 hours to make like new, the upper and lower gear fairings, the wheel streamlines, and the cowl. All together these comprise a major share of the Reliant's exterior personality. The soft aluminum parts were worked using the heel of his hand as the dolly against thumb pressure, and using a soft mallet only sparingly.

All the exterior metal was finished with black acrylic lacquer over gray primer. The finish was brought up

entirely by hand, starting with #600 sandpaper, followed by three hand rubs with decreasing coarseness of compound. A final glaze rub was then applied, with a hand wax application as the finale.

It was about this time that Forrest Lovley paid one of his regular visits to Roy's shop and Roy was deeply engrossed in making things more shiny. After listening patiently to his complaints about one thing or another, and how he would redo this or that, Forrest said, "C'mon Roy, it looks fine . . . quit trying to make it look better, MAKE IT FLY!"

Forrest's suggestion was a good one and it caused Roy to change his philosophy somewhat. The pace of the restoration hastened and at last the end of the road was in sight.

But there was still a lot of rubbing to be done and the fuselage alone used up 2,000 palm-size pieces of #600 paper. Each piece used with soap and water was good for 15 strokes. This was followed by a coarse, a medium and a fine rub, then a seal and glaze rub topped off with a wax job. This same process was repeated on the wings and tail group.

Roy is grateful that Judie helped with rubbing out the fuselage and number one son, Mike, came home in time to pitch in on the rest. Were it not for that help, Roy says he would have been carried from the shop in a straitjacket and taken to the funny farm.

Next came time for the wing hanging party and a group of friends assisted with this chore. The Stinson was finally starting to look like an airplane again, but it was still three months from being flyable.

Now Forrest's words, MAKE IT FLY were ringing loud and clear as the remaining time was devoted to installing the tail feathers, propeller, wheels and brakes, the interior, the rigging of the controls and fitting all fairings. Funny how a couple hundred hours of work can be condensed into a sentence like that, but that's how it was.

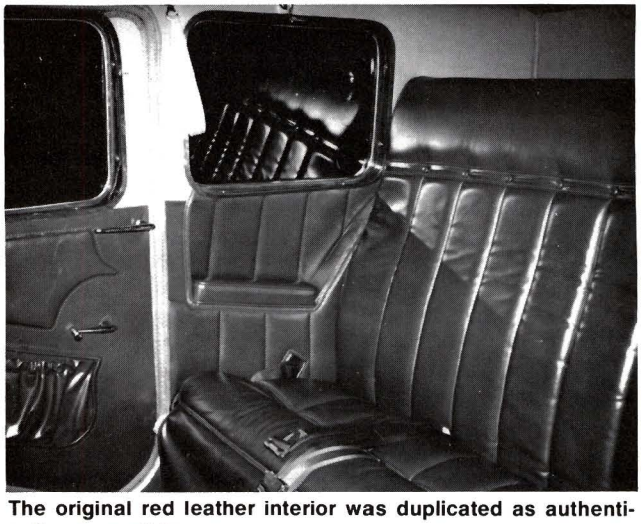
The authentically restored instrument panel including the beautiful handcrafted wood grain finish. (Ted Koston Photo)

One final delay was waiting for a part to arrive while replacing the Hayes wheels and expander tube brakes with original Goodyear equipment. Roy strongly recommends that this be done for the longevity of both the plane and pilot.

On August 6, 1980 the Stinson was rolled out into the sunshine for some high speed taxi tests. Roy wanted to be sure the cowling and air intake change would allow the engine to breath O.K. at high power settings with a fair amount of ram air. On the very first run the tail came up and Roy couldn't resist . . . MAKE IT FLY . . . a little tuck on the wheel, and it did!

Just prior to touchdown after the first flight on August 6, 1980.

So now it flew, but there still remained the never-ending detail work to finish and also the interior upholstery. The latter was accomplished by Todd Owens and Tim Oberg who created a masterful reproduction of the fine interiors Stinsons were noted for, using for reference a 1936 magazine ad, a couple of Ole's snapshots, and raggedy pieces from another airplane.



The original red leather interior was duplicated as authentically as possible.

Two major items have not been mentioned . . . the engine and electrical system. The Lycoming R-680 was majored in 1959 in Tulsa and Roy did some superficial things such as new gaskets and seals, new thrust seal, new wiring harness, mag overhaul, and a general refinish and replate of parts for appearance sake. The engine performs by the book which is a tribute to both the engine type and the overhaul mechanic.

During the 1958 rebuild in Tulsa, John Horeth, an electrical engineer scrapped the 1936 archaic wiring installation and designed and installed a superb new system complete with switching panel, in-line circuit breakers, and a main bus. All wires were numbered and carefully wrapped in neat bundles. The end product was so well done it would probably outshine any factory installation to this day. Roy removed the system intact in 1975 and later reinstalled it in its entirety. It functions flawlessly which is a tribute to John, now gone west.

For years, Roy Redman stood on the sidelines at fly-ins watching the antiques taxi by and hoping he might be invited for a ride. Occasionally he was and it was always a memorable experience. Now he can reciprocate and he enjoys sharing his antique with others so they, too can see how it was in 1936. ●