

Radio Control

Soaring

Dan Pruss

Jack Hiner and his Astro Jack which flew to a distance record of 32 miles. The name was inspired by the special high-lift airfoil.

Sailplane Distance Record Tentatively Broken. In an attempt to break Jerry Krainock's existing distance record of 27.20 miles, Jack Hiner of Downer's Grove, Ill., flew 32 miles for the straight-line record try.

A year ago, over the three-day Memorial Day week-end, Jack set a S.O.A.R. club record for a thermal duration flight of 3 hrs., 7 mins., 52 secs.! It was this flight that urged Jack to plan for the distance record because weather conditions couldn't be more ideal. It should be noted that Springtime in the midwest produces evenings with the temperatures in the forties followed by daytime temperatures in the seventies. The freshly plowed fields that blanket this area become a caldron of thermal activity and if the soaring axiom—for every thermal there is a "downer"—is true, these "downers" probably exist somewhere near the Missouri border! So—with these weather conditions as part of the master plan, Jack made preparations during this past year.

The airplane—a large one—was one that could be seen at great altitudes. His Astro-Jeff that flew over three hrs. was barely visible for over two hrs. and most of that time was spent attempting to come down! So with Jack's own design of the flying surfaces, the Astro-Jeff fuselage was fitted with a 171-in. wing sporting an NACA 7310 airfoil. This airfoil was lifted from Eric Lister's "Sailplane Designer's Handbook" and if you think Mary Poppins' flying apparatus had undercamber, plot the coordinates of the "7310." (With tongue in cheek, Jack labeled his bird Astro-Jack.)

The route of flight was selected to be west to east and this route along a lightly traveled country road. Launch point would be at a predetermined point just southeast of Ashton, Ill.,



with the flight terminating 51 kilometers east. This road—Perry by name—was carefully selected for it provided a relatively straight course, little traffic, only one small farm town—Steward, and an abundance of recovery areas should the flight be aborted. This last criterion should not be taken lightly by anyone so inclined for cross-country work—this includes the various LSF goal and return requirements. Safety should be paramount in this type of flying and the time spent in preplanning a flight with areas of landing pre-selected, should a flight fall short of its goal, is low cost insurance for the modeler.

The witnesses—FAI requirements state that one official and two observers approved by the National Aero Club shall be provided. With history about to be made, witnesses are the easiest of the criteria to be met. Besides that, Jack was gonna buy if he made it.

So, early on Saturday the 24th of May—the first day of the three-day Memorial Day week-end this year, Hiner and seven other S.O.A.R. members started a four-car caravan for the launch point. Those aspiring to distance record attempts should note that the launch point and the point of landing must be indicated in writing before the flight takes place.

Witnesses for this attempt included Don Ellis, Keith Finkenbinder—S.O.A.R. Chairman, John Nielsen—LSF Secretary, Jim McIntyre—of Winchmeister fame, his son Mike, Tom Ruddy, and this scribe.

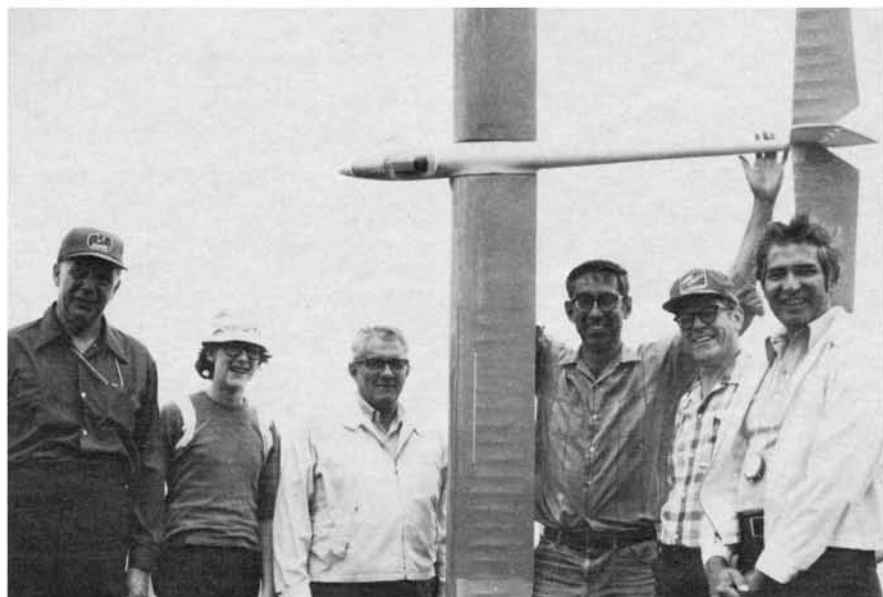
The weather—not exactly what was hoped for—the forecast of a cold front was following the meteorological predictions almost to the minute. Cumulus clouds were already forming and increasing in density to the west. On the horizon it was already dark and it was evident that this might just be a one-shot attempt. Sunday and Monday were to be rainy with winds about 15-20 mph out of the north-northwest... too strong to fly an easterly course and weather not conducive to producing thermals.

The winch was set up and the only flaw in Jack's preplanning showed up when a telephone line running perpendicular to the direction of launch precluded a 300-meter launch. Repositioning the launching system was impractical so a compromised launch of 200 meters was settled upon. Cloud cover now was about 50%; the wind was 8-10 mph.

At 1127 CST the Astro-Jack was off the tow—although it was not unlike most other launches, the seven witnesses applauded, probably for encouragement to Jack—then again because we suddenly felt we were a part of this attempt.

Four minutes went by, and the 14-foot bird had been descending slowly. The cars were positioned to go if conditions dictated. Nielsen, Finkenbinder, and McIntyre were to secure the winch system and catch up with the chase cars. No one moved, except Keith, who was retrieving the tow line for another launch.

Eight minutes—still no lift and Jack is preparing for a landing in the deep grass along the road. At about 75 feet—and not one-eighth of an inch higher—lift—ever so slight. Can he work




The happy "crew" after the flight, L to R: John Nielsen, LSF Secretary; Mike McIntyre, Don Ellis, Jack Hiner, Jim McIntyre and Keith Finkenbinder—Tom Ruddy not in picture. The huge 171-in. wing could be readily seen even at very high altitudes. Photos by Dan Pruss.

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Vital Statistics:

<p>MATERIAL: 200 lb. test B flute corrugated cardboard with No. 1 white finish both sides.</p> <p>SPAN: 64"</p> <p>LENGTH: 31 1/2"</p> <p>ASPECT RATIO: 12.4</p> <p>WING AREA: 330 sq. in.</p>	<p>AIRFOIL: Under cambered</p> <p>STAB AREA: 78 sq. in.</p> <p>STAB AIRFOIL: Flat</p> <p>WEIGHT: 15 oz. w/o gear. 21-28 oz. flying weight.</p> <p>SURFACE LOADING, TYPICAL: 8 oz. per sq. ft.</p> <p>DIHEDRAL: 9°</p>
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RC Soaring

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it? A turn back into it—up a few feet—a nice gentle turn and the eight and one-half pound bird seemed to smile an assuring “yes” and continued to spiral upward.

No spring-like “boomer” this lift. But, the plane was going up and another reassuring round of encouragement came from those of us that were here to “officiate.”

We had all the time needed to pick up the equipment for the gentle lift and light wind took another 12 minutes to carry the Astro-Jack to a point where Jack decided it was time to take up the chase.

Riding in a borrowed convertible, which provided an excellent vantage point and a rather comfortable means of travel when one has to look up for so long, Jack and driver Don Ellis raced to catch up with the plane that was by now pointed eastward. The rest of us were in close pursuit and at the unofficial five miles check point on the odometer, the stop watch read 31 minutes and 30 seconds! It didn't take an exercise in mental gymnastics to figure that this could be a long day unless the lift and wind picked up in strength and velocity.

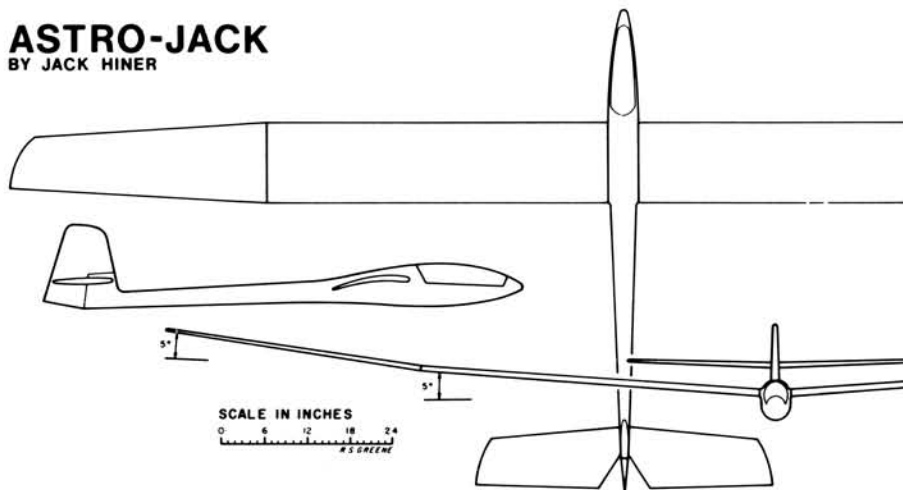
Those fair weather cumulus clouds were now less than friendly looking as they began to darken and grow in size. The darkness on the horizon at the time of launch had closed its distance by about one-half, and the wind was up slightly.

8.4 miles at 00:41:21—lift is still light and it has to be worked even though we feel Jack should be feeling the effects of the leading edge of the front. We're at the only town on the route of flight. The strategy here was to be as high as possible on the town's west edge—point the bird east, and fly it for a comfortable distance—drive through town without alarming the town constable—and continue the challenge on the east side of town. It worked as planned. However, we do wonder how long the townsfolk kept staring up after we passed through, all trying to help keep our eye on history hopefully being made. We did manage to tell one gent riding on a tractor what the fuss was all about.

11.2 miles at 00:50:04—Down air! The first real feeling in nearly an hour that this might be all for naught. Along with Jack and Don, in the lead car sat Mike McIntyre helping to monitor a Thermal Sniffer's hints of lift. None! Searching frantically, Jack criss-crossed the freshly plowed fields that abound this route. Eight more minutes of what seemed like an eternity—still no lift. Now an eight and one-half pound sailplane can hardly be called a floater, yet the Astro-

ASTRO-JACK

BY JACK HINER



Jack with the wing and airfoil as described earlier is just that—a lazy flying machine designed to take advantage of the lightest lift and “float” at about 8-10 mph. But as designed, it paid off. At about 300 feet and 12 miles and 00:58:29 into the flight, Jack played out the lightest of thermals and rode out this bubble of lift until he was again at a comfortable height. Downwind and eastward he followed the road. By now the cloud cover had increased even more and the ominous signs of the cold-front—the cumulo-nimbus were already dropping rain at what looked like the original launch point. Higher and faster downwind Jack flew. No doubt about it now. We all felt confident that if the airplane stayed together in one piece, the 32 miles would be reached.

Of sudden concern was the structural integrity of the ship Jack had spent so many months grooming for this day. For now he was wedged above the leading edge of that cold front. While all the help was there to speed him along, so were the destructive forces bred by thunderstorms. Under a raging cumulus, wind, whose patterns showed no single direction, it became apparent that the wrong move by Jack could cause the Astro-Jack to be shattered in more pieces than the original took to build.

Wisps of this same cloud showed wind direction on its northern edge to be easterly while elsewhere beneath it the air boiled. The northern edge would be the safe spot if he could just get over there. By now the thermal sniffer was screaming at its highest pitch. Eighteen miles at 01:22:00.

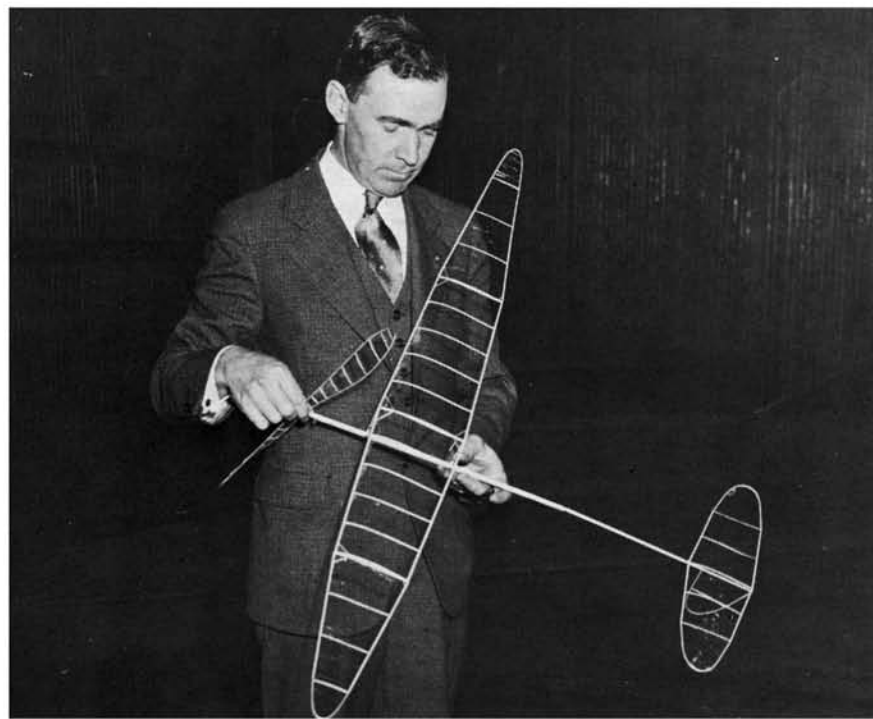
As if it were a tiny speck in a giant centrifuge, the Astro-Jack was flung eastward and it was

now ahead of the cloud that once threatened to destroy it. John Nielsen was calling the unofficial mileage checks as I logged the times; 19 miles—01:23:14; 20 miles—01:24:14; 22 miles—01:30:58; my note read “riding high.” And at nearly 60 mph, the next 11 miles was a cake walk. The loss of lift was never a threat and the thermal sniffer indicated just that. Don't know what Jack's favorite song is, but his favorite note has got to be about two and one-half octaves above middle “C.” At 01:57:21 Jack had the Astro-Jack over the landing site with air and a sense of feeling that he could go for 32 miles more. We all felt the same. About six minutes later at 02:03:17, the Astro-Jack touched down well within the prescribed 500 meter radius of the pre-determined point of landing.

Later, as we sat in the local watering hole and discussed the “what ifs” of the flight, Jack admitted he didn't think the flight was possible on his first attempt. Apparently the preparations for nearly a year paid off.

By the way—Jack bought.

(My address is Route 2, Box 490, Plainfield, Ill. 60544.)



Willis Brown loved Indoor models. Here he is shown with one of his favorites—the model with which he placed 6th at the 1935 Nationals

AMA #1—Willis C. Brown 1896-1975

Willis Brown was the first AMA president and a believer in long term commitments. He didn't say so but his whole life reflects a consistency of deciding what was right, then sticking to it from then on. The best example of this was his dedication to model aviation. He got involved long before most of us were born. In 1911 at age 15 he was one of the organizers of the Independent Aero Club of Massachusetts, and in 1975, at age 79, he was still working on behalf of model aviation in compiling historical documents and giving advice to AMA leaders.

Willis died on June 2nd of this year, just a couple of weeks after some phone conversations with AMA HQ personnel. That was typical of Willis—he always kept in touch and offered words of wisdom concerning AMA's past, present, and future. He died as he had lived: quietly, but organized and functioning effectively to the very end. He even had his own obituary written in advance, so his family would be spared this chore when the time came to need it.

Willis Brown was the logical man to be the first AMA president. He had a combination of leadership and popular following that got AMA off the ground in a manner which has enabled the organization to grow steadily for 40 years. Initially, in 1936, he was appointed by a council of model leaders who gave him the title of AMA president. He followed this in 1937 by becoming elected to the position by membership vote.

He was a gentle man, but tough because he so strongly believed in what he was

doing. He was determined that AMA would never be subservient to commercial interests, yet he worked closely with industry leaders to promote and develop model aviation. Willis Brown was the ideal organization man—able to work both within and outside of AMA to make the organization stronger, for the benefit of all, despite pressures from some to have it serve narrower interests.

Willis enjoyed being a competitor. He was extremely proud of his sixth place finish at the 1935 Nats Indoor event. And he was proud of his son, Ralph, who was a many times Nats competitor during the early and mid 30's. Between them they were great representatives of the Junior Aviation League out of Boston.

One of Willis' proudest achievements was the winning of the nationally famous Frank G. Brewer trophy in 1965, for outstanding service in the field of aviation education. He attributed largely his winning of the trophy to his model aviation background. He was always happy to give model aviation credit for a major influence in his career and enjoyed publicizing others who did the same. His research on the subject revealed that many of the NASA astronauts were proud to give such credit.

As a historian and writer, Willis wrote mainly about others and their contributions to model aviation history. His most recent published article was in the September-October 1974 issue of *National Aeronautics* magazine, entitled "They Paved the Way." But Willis not only wrote about history, he made it himself. As a result he was honored by the Model Aviation Hall of Fame award in 1969. No one deserved the award more.

Memories and Inspirations

When I became executive director of AMA in 1964, one of my inherited projects involved Willis Brown, AMA's first president, who was then AMA historian. He was deeply involved in writing the first history of AMA, having been asked to take on that chore during the fifties by the former executive director. It became one of my jobs to work with Willis and with Walt Billett to get the history into print. Billett, then best known as one of the founders of the 8-Ball Club, which had been organized to support model aviation, had a driving determination to see the history project finished before he died. He was impatient with Willis who was a painstaking researcher and one not inclined to be rushed.

I acted as buffer between the two, and it was a great education. Both knew all the famous model aviation personalities, and they revealed many inside stories that helped me, as a comparative youngster, understand and learn to work with many of the oldtimers.

Willis was particularly helpful in getting me to appreciate the delicate relationship between AMA as a national membership association and the hobby industry which had developed from AMA's model aviation activities (as a matter of historical fact AMA was instrumental in the formation of the Model Industry Association—the MIA, which later became the Hobby Industry Association).

He advised, too, that AMA had endured many years of being told by many industry leaders what to do and how to do it, despite the fact that AMA's greatest value to the industry would be as an independent voice of modelers. He left no doubt that the industry should provide support but without any strings attached, because only through a financially strong but independent AMA would all of model aviation—including the industry—prosper.

My last conversation with him was on the phone, in May, right after the first issue of the new *Model Aviation* had been produced. He was tremendously proud that the AMA he had helped found 40 years earlier had finally come of age with a first-class membership publication for its members.

Willis Brown, AMA #1, had tremendous insight and patience. He was a professional educator. I can think of no better way to show appreciation for his inspiration than to follow his teachings.

John Worth