THE YEAR IS 1953. On a mission to fly solo recon for an early morning strike the following day, your Navy fighter has been shot down deep behind enemy lines. Despite the damage to the aircraft and its systems, you manage to get off a brief position fix to the carrier before punching out into the moonless night. Now, stranded in hostile territory, you are holed up in a rock outcrop, tending to your wounds as best you can and hoping against hope that the package is on the way.

STORY BY MARK MASCIAROTTE

PHOTOS BY NEIL RABINOWITZ

Hours later, as you try to stay alert in the numbing cold of the pre-dawn night, your ears pick up the faint drone of a Dakota inbound from the south. The sound continues to increase as, mile by mile, the pilot bears down on your reported coordinates. In a moment, he passes overhead, then gracefully

SOLO

FLIGHT

banks away, his engines changing pitch in the sky above. Although there is no light from the moon, you can just make out the shape of a parachute in the plane's wake as the fabric dome blocks the stars from view. Moments later, the rustling of leaves and cracking of branches pinpoint the landing site fifty yards away.

With great care you make your way toward the strange shape. In the darkness the package looks otherwordly, a thick cylinder nearly four yards long and two yards wide, swinging gently two feet above the ground. Your survival knife makes quick work of the harness, and the large oval tube drops to the ground. Prying off the end cap, you peer inside. There, folded neatly inside the container, is your magic carpet, your ride to freedom.

IT'S 1998. I'VE JUST FINISHED A TOUR OF THE charming house owned by Jerry and Marilyn Wilson, founders of Soloflex, the company that made home exercise machines an American cultural phenomenon. Located several miles from downtown Portland, Oregon, the house stands proudly atop a hill that has commanding views in all directions. It is early spring, and a rainbow palate of splendid flowers and trees surrounds us, drawing our gaze to the gardens and orchards below. The landscaping is breathtaking, designed with great skill and beautifully executed.

Because the design makes use of a pair of coaxial, contra-rotating rotors, a tail rotor is not required.

Walking into a sparkling white garage, I see for the first time the object that has brought me to the Wilson home. Perched silently on the spotless floor is a flying machine that is like nothing else I've ever seen: the RON-1 Gyrocycle, the United States Navy's 40-year-old magic carpet.

From what I can gather, there aren't many people who have had the opportunity to inspect a RON-1. Like many inventions destined for use in the military, this diminutive aircraft was designed for missions that required secrecy and stealth and was produced in very limited numbers. This particular unit, bearing the FAA registration number N7228C, has been taken down to bare metal, cleaned and tested, primed and painted, then completely rebuilt. It can be flown under the experimental category, and, several minutes later, I am given a demonstration of its capabilities.

Before meeting Jerry Wilson and being given copies of the aircraft's documentation, I had assumed that the Y-RON was simply a more sturdily-built cousin to the ubiquitous Gyrocopter and had mentioned this to Wilson.

"No way," he replied emphatically. "This is a real helicopter, with complete VTOL capability as well as the ability to fly horizontally in all directions. It's the genuine article."

Wilson should know. He owns two of the remaining eight or ten RON-1s in the world. He also is fortunate to be friends with Avo Kalaydjian, of Aviodyne USA, acknowledged by the manufacturer as being the most knowledgeable person alive on the subject of these rugged little machines.

When Wilson first learned of the aircraft, he began what was to become a three-year odyssey to purchase one of the remarkable machines. Manufactured in St James, New York, by the Gyrodyne Company of America, the RON-1 was originally designed by a British firm that sold the technology to Bendix Helicopters in the late 1940s.

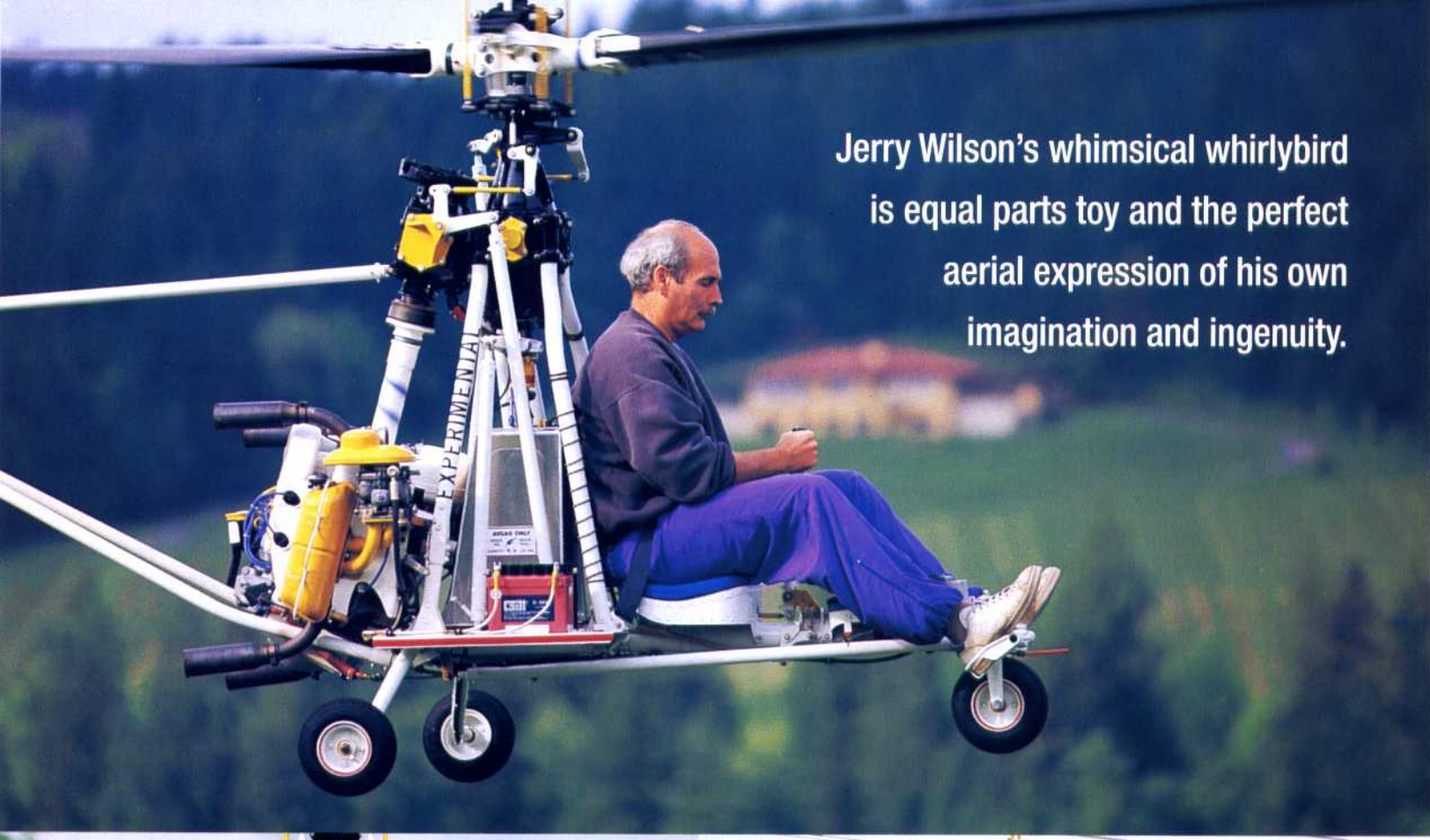
Kalaydjian explained that one of Wilson's units is a Y-RON (the third model to be manufactured), and the other is a DSN-1 (the fourth model) that has been converted to a manned unit from its original configuration as a drone, which is an aircraft designed to be remotely operated by a "pilot" stationed aboard ship or on the ground. The Y-RON originally had a canopy, complete with doors, that gave the pilot shelter from the weather. During the overhaul, the canopy was removed to gain useful load and to inject more fun into flying.

AFTER PUTTING THE DSN-1 THOUGH ITS paces for my edification, Wilson lands, shuts down and attaches wheels to the skids. While pushing the helicopter back into the garage, he says, "That's the way to fly. Open space. Thirty feet and thirty knots. You become the airspeed indicator."

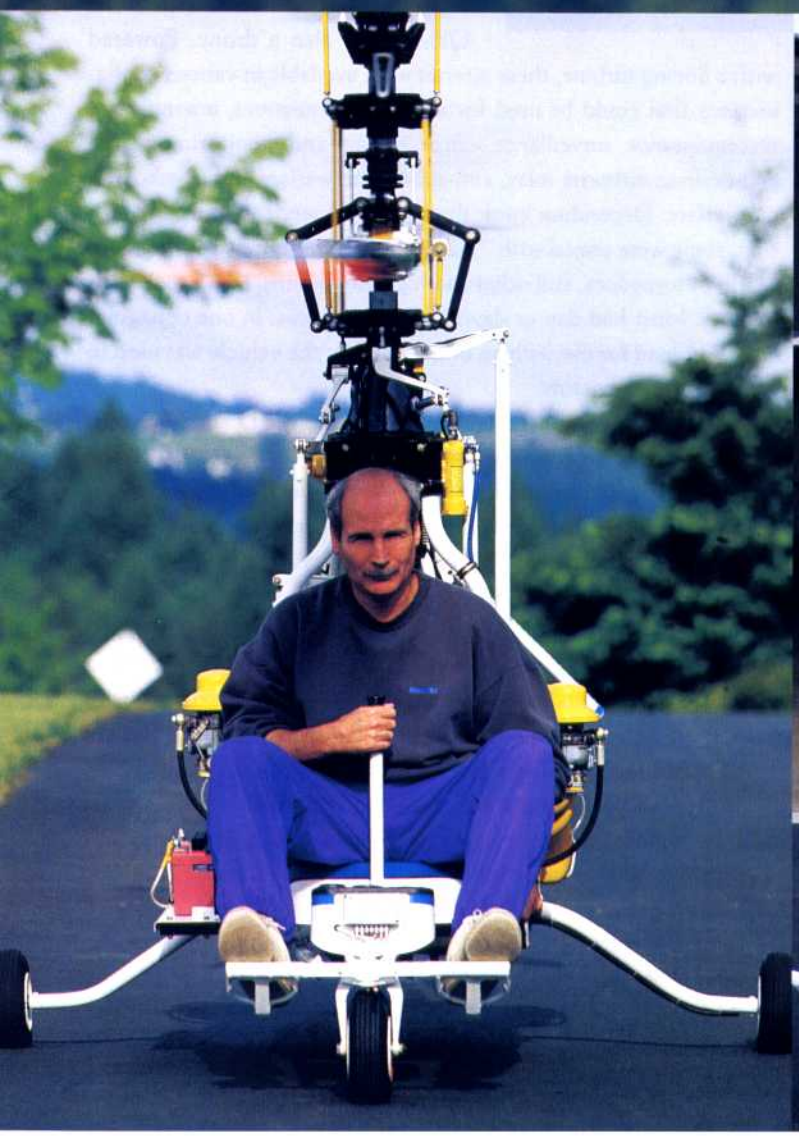
After watching the agility and power of the DSN-1, it's hard to disagree with Wilson's statement. Nevertheless, I can't help but think that the comfort afforded by a canopy on those many cool, wet Oregon winter days would make its extra weight only a minor inconvenience. But Jerry Wilson's a guy who used to ride motorcycles during Wisconsin winters, so what's a little northwestern rain?

Equipped with a four cylinder, air-cooled engine, designed specifically for the application by Ferdinand Porsche, the helicopter is robust, as befits a mil-spec aircraft, and cruises at between 55 and 60 knots with a top speed of 70 knots. The throttle and the cyclic and collective flight controls are conventionally placed and operate their respective components by means of mechanical rods linkages. However, because the design makes use of a pair of coaxial, contra-rotating rotors, a tail rotor is not required. Therefore, the pedals that control yaw deploy tip brakes on the rotors that induce directional changes when activated.

The Porsche engine, specially built to permit an installation angle of 75 degrees, develops 72 horsepower at 4500 RPM (a rotor speed of 450 RPM). It is fitted with two magnetos, a dual ignition system and a pair of ground-adjustable Zenith carburetors. A Borg Warner



Jerry Wilson's whimsical whirlybird is equal parts toy and the perfect aerial expression of his own imagination and ingenuity.



Wilson loves to fly his Gyrocycle above the orchards and beautifully landscaped gardens surrounding his home.

free-wheel unit is fitted to permit autorotation in the event of an engine failure.

The Gyrocycle's rotors are 20 feet in diameter and are fabricated of birch, specially selected by Weyerhaeuser engineers. They are tapered to an angle of 12 degrees and are designed to lift throughout their entire length. Earlier models (the X-RON and X-RON 1) had less power and less disk area, although later in the program Gyrodyne made some units that were powered by two reciprocating engines and, on two machines, by a Solar turbine.

Reading the manual is an interesting exercise for any pilot who has waded through modern flight manuals. The document is simple, intuitive, and, at times, conjures up humorous Flintstone-esque images. For example, the following instructions are given in the Emergency Procedures section that relates to engine failure during flight: "If it is necessary to brake the landing run to stop short of a hazard this can be performed by removing the feet from the rudder pedals and placing them in contact with the ground. Do not attempt this above 5 knots ground speed."

After mentioning this passage to Kalaydjian, I couldn't help but laugh as he gleefully explained another unlikely scenario.

"Think about this," he says. "Here's this guy, banged up, perhaps bleeding. He has to drag this machine out of the container. Then he has to lift each of the rotor blades and attach them to the hubs. Up over his head. Okay, so he manages to do that. Great. Now he's got a real problem."

"Which is?" I ask.

"The Porsche engine."

"What about it?"

"There's no battery, man. It's got a pull starter." And he cracks up.

This oversight aside, the design for the RON-1 is still impressive. After all, in its drone configuration, the DSN-1 could carry a 150-pound torpedo and deliver it to the target without risking a pilot — a remarkable achievement, especially with its 1950s technology.

After manufacturing three RON models, first for the Navy, then for the Marines, Gyrodyne put the DSN series into the field. Introduced at the Pawtuxent Naval Air Station, it was the first drone ever flown by the Navy. The company then moved into building an even more complex and powerful machine, the QH-50.

Known as the "Nite Gazelle," the QH-50 was also a drone. Powered with a Boeing turbine, these aircraft were available in various configurations that could be used for a variety of missions, among them reconnaissance, surveillance sensor implant and monitoring, search and destroy, airborne relay, anti-submarine warfare and psychological warfare. Depending upon the branch of service or specific mission, some were armed with 7.62mm mini-guns, others with a pair of Mark-44 torpedoes, still others with gravity bombs, LARS rockets or missiles. Most had day or day/night TV cameras. In one configuration, designed for use with an onboard pilot, the vehicle was used to rescue downed aviators.

The later models of the QH-50, especially the D and E models, had a greater cargo capacity and larger fuel tanks that extended the flight endurance to around four hours. When the E model was introduced, its primary upgrade was that the Boeing engine was replaced by an Allison turbine of 275 horsepower that gave the 900-pound vehicle a gross weight of 2800 pounds.

When Gyrodyne ended production of the QH-50s in 1970, 900 units had been built along with the large spares inventory required under their contracts with the military. Today, these extraordinary aircraft are being built under license in Europe by Dornier and are being tested for NATO in a project called SIAMOS.

Wilson and Kalaydjian are currently in partnership on a QH-50E. As it moves closer to being fully restored in Kalaydjian's California shop, Wilson is becoming more and more excited.

"This is going to be a terrific ship," he says, as we look through a copy of the original company brochure and some photos of the restoration in progress. "It'll be fun."

Problem is, the chopper is in Southern California, and is there-

fore difficult to visit. Or is it?

"Not really," says Wilson with a wry smile, pointing to a photo of a lovely Falcon 50 tri-jet.

As it happens, the Wilson clan has a second home in Southern California, which is where the Y-RON is hangared. A commercial pilot with 10,000 hours, including a couple of hundred in rotorcraft, Wilson is type-rated for the Falcon and flies to California regularly from the plane's base at Hillsboro Airport's Hangar 53, an FBO that the family owns.

Wilson explains that before starting Soloflex he made his living as a commercial pilot, flying the mail, cropdusting and, later, flying Learjets for a charter operator in Las Vegas.

"I flew a lot of entertainers and celebrities," he recalls. "Some of them were interesting characters. One guy, Colonel Tom Parker — he was Elvis Presley's manager — used to fill the plane with food. Not hot or cold food from the catering people, but staples, like canned hams, cases of canned yams and sacks of beans. I'm not sure what he was concerned about that made him carry all that stuff around with him, but he'd help us load it on and off the plane every time he flew."

During his commercial flying days, Wilson bought and sold aircraft to earn extra money. It was during a tug-of-war with a bungee that had broken on a Pitts that he once owned that he first came up with the idea for Soloflex, which uses resilient rubber bands to provide tension, rather than the hydraulic or pneumatic cylinders used on other exercise machines. Scraping together $20,000, he and Marilyn built the first machines and took out an ad in *Playboy*. The rest is a marketing story that has earned them a very comfortable place in the world and, for Jerry, invitations to speak at business schools around the country.

Wilson takes it in stride, saying that it is a privilege to have been able to do so well. He chuckles as he describes the bumpy rise to the top and some of the mistakes that were made along the way.

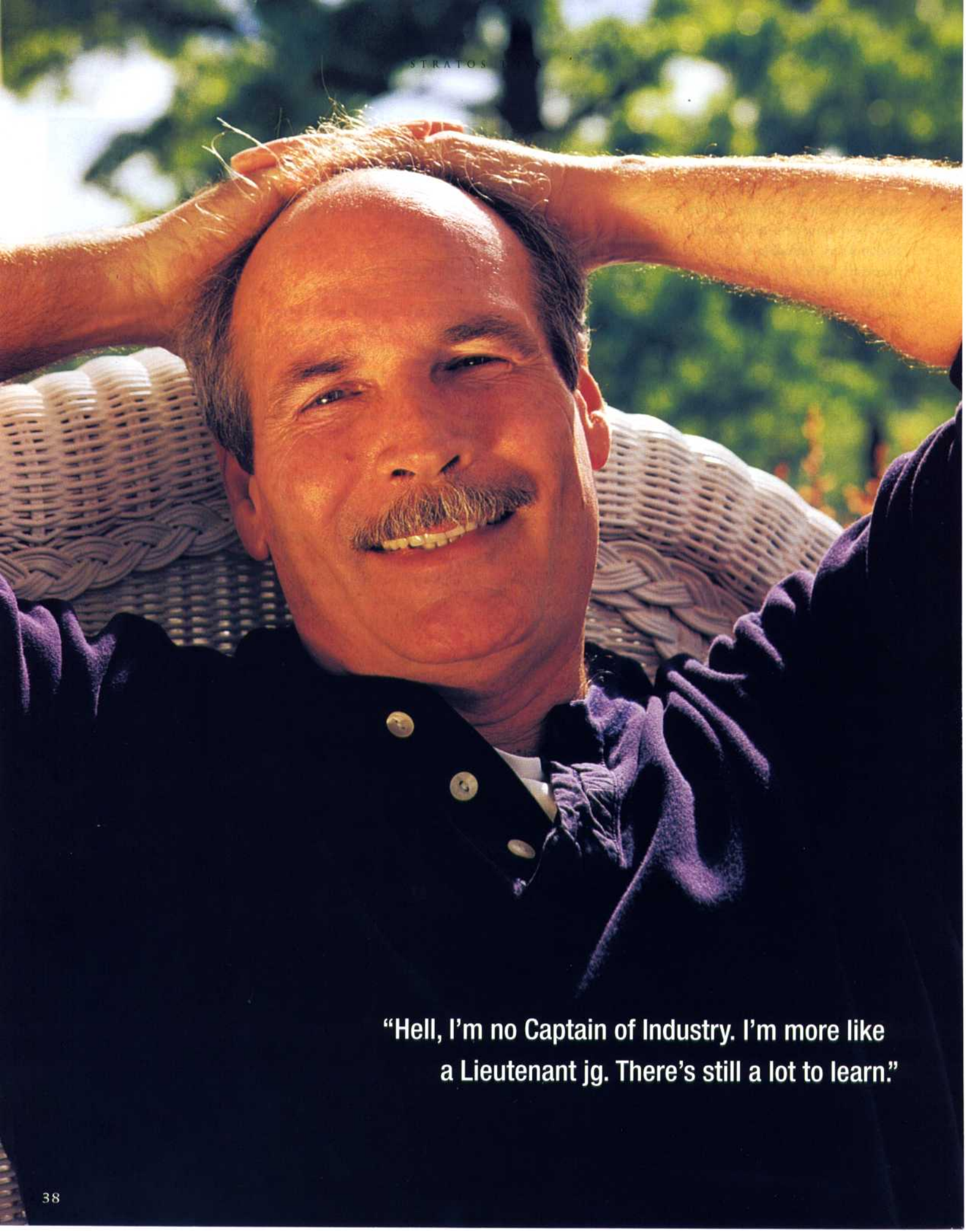
"It's quite amazing how much you need to learn to run a successful manufacturing company," he says, shaking his head. "Hell, I'm no Captain of Industry. I'm more like a Lieutenant jg. There's still a lot to learn."

AFTER THE DEMO FLIGHT, WILSON TAKES ME ON A tour of his farm, which he has been assembling from various parcels over the past decade. Beyond the formal areas, a conservatory and several other outbuildings give testament to the serious nature of the agricultural business that is being engaged in by the Wilsons' staff. An organic garden is being prepared that will someday provide useful research information as well as being a source of high quality produce.

The orchards boast somewhere around 4,500 trees, representing 20 varieties of apples. Once harvested, the apples are juiced and purified, then bottled and sold under the Sweet Oregon Apple Company name at a charming, country store nearby that is part greengrocery, part specialty food store, part snack bar, and Marilyn Wilson's idea. Soon, she plans to open a restaurant on an parcel of land adjacent to the store.

The retail operation represents a typical application of these successful entrepreneurs' abilities. Another is currently underway at the Soloflex facility, a ten-acre complex that, along with sixty undeveloped acres, lies amidst to some of the most active high-tech industrial land in the Pacific Northwest. With the market for exercise machines leveling off, Wilson has moved some of

The Soloflex family tree: The Soloflex Muscle Machine, top, is the original design by Wilson which sparked the exercise-machine craze in America and established the family fortune. Building on that success, Wilson next released the Rockit, center, and is now promoting his reinvention of the simple yet remarkably effective dumb bell, left. Below, Jerry with his Falcon 50 at Hangar 53.



"Hell, I'm no Captain of Industry. I'm more like a Lieutenant jg. There's still a lot to learn."

his employees into a new venture that makes use of much of the forming and machine tools that are used to manufacture the Soloflex products.

The new division fabricates and erects steel buildings. For Wilson, it was a logical extension of his company's reach.

"We already had most of the manufacturing tools in place to build the exercise machines," he explained, as we entered a large building once used to warehouse Soloflex inventory. "All we had to do is build some jigs, and we were able to fabricate the components necessary for these structures."

Wilson explained that the buildings have long life and are stronger and less expensive to maintain than wooden structures, especially in the wet conditions encountered in the Pacific Northwest. They are, however, more complex.

"What we had to teach the architects is that this is quite a bit like airplane construction in that all of the engineering needs to be done up front. To fabricate one of these buildings you need to be sure all of the design is done ahead of time, and many architects are accustomed to field fitting some of the components. That might be okay with wood, but it cannot be tolerated with steel. There's no room for error."

During our hours together, Wilson quotes de Toqueville and Hippocrates, Schwarzcopf and Truman, Twain and Whitehead. He tells me of his and Marilyn's battle to shut down a nuclear plant on the Columbia River, an expensive, protracted fight that no doubt made the couple some enemies in high places. Like their struggle to bring Soloflex to a successful place in the business world, the Wilsons considered this activity something that was simply the right thing to do, in the same way as they take seriously their responsibility to rear their four children.

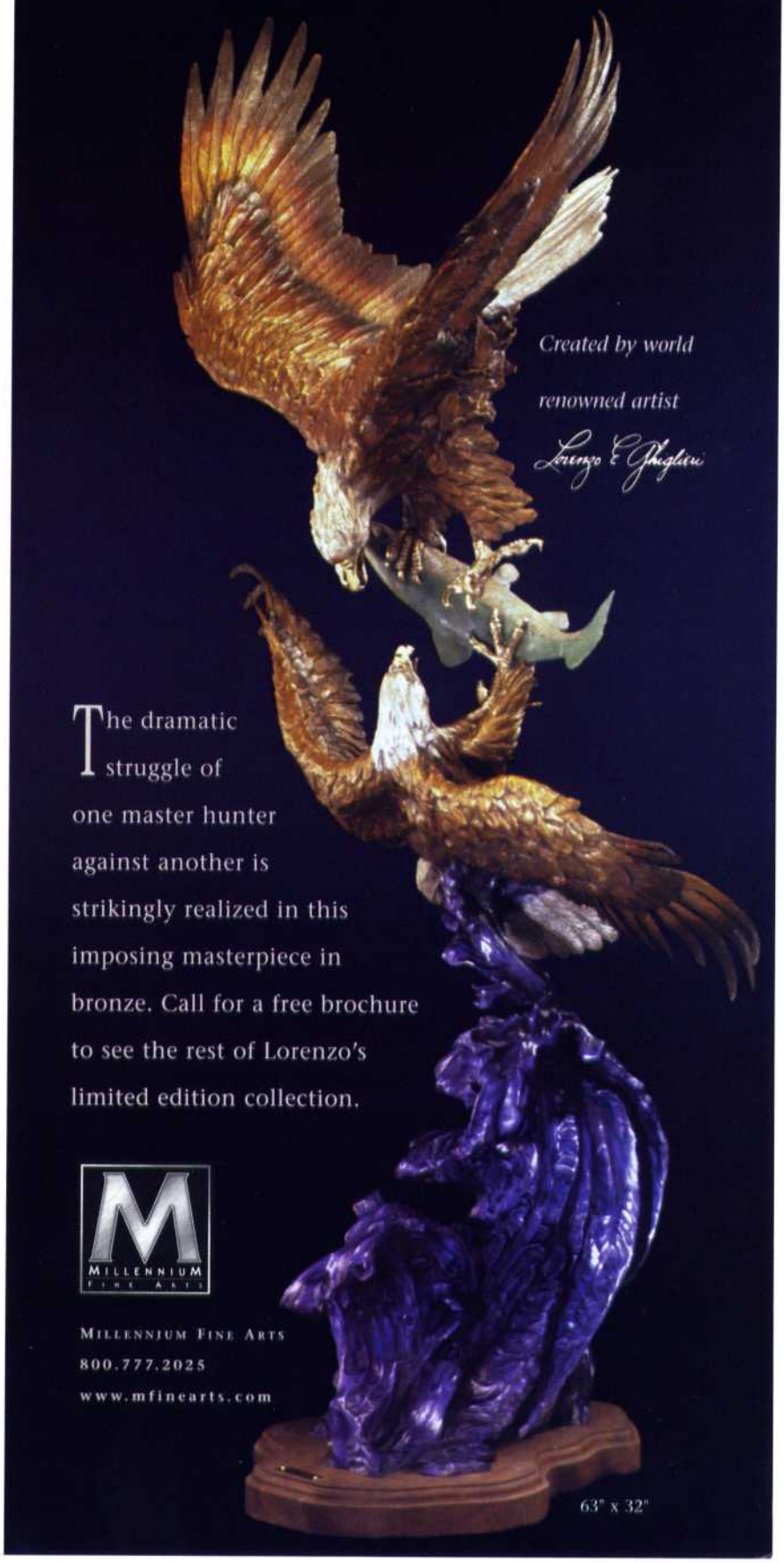
"I'm a bleeding heart conservative," Wilson quips, eyes twinkling, tongue in cheek, but then turns serious. "This is a great country, with the greatest potential of any in the world. But sometimes we do things that are just stupid, and the taxpayers are left to clean up the mess. You wouldn't get away with that in a public corporation today; the stockholders would tear you up. So why should we let the government or dishonest companies get away with things that can hurt the people who have a vested interest in this nation? The answer is 'We shouldn't.'"

In the meantime, Soloflex is not resting on its laurels. The company has developed a new line of dumbbells that is quickly gaining attention from professional and amateur bodybuilders. Predictably, Wilson is also targeting the home fitness market.

"This is a product that's easy to use. And it's very effective. You can tone up your whole body with these.

"Dumbbells have been out of favor for a while, but our design is innovative and is better than any on the market. I think it will turn out to be a popular item."

Given his record, I'd say smart money's on Wilson to win.

Jerry's QH-50E, Allison turbine-powered Gyrocycle is now in hover trials.

TALONS OF JUSTICE