

Strange Flying Machine Provides Sport

Flight is just as fascinating today for four Klamath Falls men as it was in the days when men like Glenn Curtiss and Lincoln Beachy were limping around in the sky in kites made of wood, wire and fabric.

The quartet, Herb Jones, Merle Clark, Harry Brown and James A. "Gus" Hall, spend weekends, evenings and most of the spare time they can find building skeletal machines called "gyro-gliders" or flying them off a dry lake near Worden.

None of the men is very different from thousands of others in the Klamath Basin. All are hardworking and all except one have families. All were graduated within a few years of each other from Bonanza High School.

Nor are they mentally unbalanced or unusually daring or reckless, though they say that some neighbors and friends shoot them odd looks at times.

They have found a sport that is exhilarating and contagious and once sampled stays with a man like gold fever. Their secondary mission is to show the public that their odd-looking craft are as safe as the family car, but more versatile.

All the men except Hall have been close friends since high school days and between them share a considerable store of technical knowledge and skill.

Hall is truckshop foreman at Weyerhaeuser Company's shop near Beatty. Brown is a steel worker, Jones a mechanic and Clark a bookkeeper.

And all of them have always been interested in flight and dynamics. Jones, Brown and Clark considered possibility of building a "rotary wing" flying machine for a long time and even wrote for plans a time or two before, but none was right for them.

Then they found an ad for the Benson Gyro-Glider in a well known mechanics magazine and sent for a brochure, liked the craft's looks and ordered a set of plans for \$25.

The plans called for a strategic maze of aircraft tubing topped by a thin, droopy blade that looks completely incapable of any work at all.

None of the men knew very much about the technical aspects of aircraft, but they set to work following plans as closely as possible in the basement of Jones' home near the Weyerhaeuser mill.

Brown and Clark built the blade, a semi-hollow slab of veneer 20 feet from tip to tip. And that job was a real chore.

The blade, called the "rotor," must be perfectly balanced to eliminate vibration as it turns to speeds up to 400 revolutions per minute.

And it must be shaped to exact specifications, for the rotor is an airfoil, just like an airplane's wing, that develops most of its lift from the rarefaction of air passing over its curved upper surface.

Brown and Clark ground away for weeks paring the wood down exactly, boring precision holes in a metal strap that soaks up centrifugal force of the rotor in motion, and gluing, pinning and screwing the blades together.

Jones set to work on his end of things—a process a lot more complex than a first glance at the plans would indicate. The main spar that hooks the fuselage to the rotor must lean backward exactly 10 degrees.

A spindle at the center of the rotor must allow the blade to tilt through an arc of 20 degrees backward, forward and sideways

so that the machine may be controlled in flight.

A horizontal bar pointing forward and back must be built to a very special length, as Brown found out later the hard way, and the landing gear must function just right. Gus Hall learned that the hard way, too.

Later, the machinery was moved outside where the men could "ride the point" to get some of the feel of flight without leaving the ground.

That's when the neighbors got their first look at the craft and the men began to build up a tolerance to good natured ridicule.

It is hard to believe that such a strange machine will fly—especially since the rotor is not powered. The craft is not a helicopter. If it had an engine, it would be an autogyro, depending on forward or downward motion or a stiff headwind for flight, unlike a copter that can take off straight up and hover to a landing.

The blades flop a bit and they look too short and too narrow to lift anything. The men had been through the search for building materials, hours and hours of painstaking work, neighborly curiosity and their machine looked like a spaniel with its ears at half mast.

But that look was deceptive. Once the rotor begins to spin, the craft is inspired. Even a slight wind will start the rotor spinning faster and faster until the blades stand out straight and they sing a weird song.

A 20-mile push or a headwind of the same speed is all that is needed to get airborne, as the men soon learned on the craft's maiden flight.

They hooked her to a short tow rope and found that a gentle tug from the truck sent her bounding skyward. The men were elated and soon were taking their turns flitting around the field.

They increased the length of towline progressively as they became better pilots and when their flying season ended last summer, were working about 70 feet high at the end of a long line.

In the interim, Hall, a friend, became interested in the project and built himself a similar craft with a few modifications in his basement near Jones' home. His wife helped him with the big job—sanding the rotor to perfect proportion.

All of the men have made

countless flights without injury.

That's not to say that they flew without mishap. Once on a flight, Brown came to earth tail low. The speeding blades bit into the ground and shattered and the airframe cartwheeled. Brown was shaken slightly but not hurt.

That brought a modification, a longer tail spar, to the next airframe, and such a mishap consequently is impossible, for the spar will hit the ground first and level the glider out.

Brown was practicing a "flare-out" landing that is nearly as verticle as a helicopter's.

Once on a landing, Hall's machine struck a rut that the men had missed when they scouted the field. Freakishly, the nose wheel tracked with the rut and the machine upset. Hall had to build a new rotor.

The men believe that fat, soft pneumatic tires they are fitting on their latest airframe will eliminate any such danger.

In flight, the machine is as safe as a tricycle, they say. For one thing, it has excellent stability, since most of the weight dangles beneath the rotor. And as long as the machine is in motion, the rotor will turn, creating lift.

It is simple to fly. On takeoff, the pilot simply holds forward the single control—a stick that hangs from the rotor spindle. He can make the craft climb, descend, turn or go through any maneuver he chooses with that control.

This year the men are ready for a further refinement. They are going to attempt powered flight, for which the craft was designed by Benson, an aeronautical engineer.

They found a bargain in a four-cylinder engine that once powered an Air Force target drone plane.

The little mill weighs only 75 pounds, but turns up just three horsepower less than that. That's more power than used to be fitted in the nose of a J-3 Piper Cub and enough to give the gyro extremely high performance.

Brown, Jones and Clark tried powered flight before but found that their rotor's airfoil was not adequate for the task.

They are making another rotor they expect will be superior and will give the gyro the performance they want.

Once they have the craft flying under its own power, there's hardly a limit to what they can do with it.

They can fit it with pontoons and dip into high mountain lakes for some fishing and they can get to remote hunting grounds with little effort.

Hall says the gyro would get him to work faster and easier. He could take off in a short bit of road near his house.

The men will have the ship licensed experimentally by the Federal Aviation Authority, and they must obtain solo light plane tickets to fly it.

Right now, they're interested in getting their latest creation put together. They'll have plenty of time before the lake dries up sufficiently for takeoff.



ONLY THE WIND keeps the gyro-glider's rotor turning. Here Gus Hall points the whipping blade into takeoff position. Flight's soft as a cloud, says Hall.



A ROTOR IS DROOPY until it gets whirling, then snaps to attention with centrifugal force. The big blade looks deli-

cate but is about indestructible in flight. With the craft is Harry Brown, one of its builders and pilots.

Basketball And Opera Clash

HOPKINSVILLE, Ky. (AP) — Metropolitan Opera star Rise Stevens interrupted her aria, slapped a gloved hand against the piano, and snapped:

"I'm sorry, ladies and gentlemen, but there are two girls in the audience who have been giggling during the entire thing. They are driving me out of my mind."

Quiet was restored. But Miss Stevens never noticed another distraction during the concert.

Several patrons had brought along transistor radios to listen to the broadcast of a nearby high school basketball tournament.