



Rendering of Brown L-25 *Brownie* by Dan Witkoff.

The Last Brown-built Airplane Was NOT a Speedster

A Personal Account

by George E. Cull

In 1945 I worked at the Rheem Manufacturing Company's old Ryerson Steel facilities in Maywood, California, as an aircraft tooling engineer. I was employed to do the tool and production planning and supervise the making of tools for the production of the Ryan FR-1 and FR-2 *Fireball*, the U.S. Navy's first jet-powered fighter.

One of my fellow workers at Rheem was a delightful man by the name of Don Phillips. Don learned that I was a student pilot, who in my spare time flew my Piper J3F-65 *cub* about the countryside and talked constantly of building a Knight *Twister* as soon as the time, shop space and money would permit. During one of our lunchtime discussions Don asked me if I had ever heard of Larry Brown. I said that if he was referring to the man who had built the Brown Racers MISS LOS ANGELES, and the famous Turner Racer PESCO SPECIAL, I definitely knew of him. Don then told me that Larry (Lawrence W. Brown) had previ-

ously worked for Rheem and Don knew him quite well. He assured me that I would get a chance to meet one of my all-time heroes and make his acquaintance at some not-too-distant time.

One Monday morning Don came to me and said he had had an accidental meeting with Brown on Saturday and they had discussed old times and Don had introduced my name into the conversation with the result that Mr. Brown would like to see me at some convenient future time. Meanwhile, the atom bomb fell and Japan quit the war with VJ Day taking place, resulting in job layoffs and aircraft workers milling around the area by the thousands.

One day, after the confusion wore off, I went out to see the Brown Aircraft Company located in a small ex-store building across the street from the Montebello High School in Montebello, California, and asked to talk with Mr. Brown.

I spent quite some time talking to

Brown and after a time Larry said he would like me to work as a draftsman on his latest project. Later I was to help with the tool design, planning of production, etc.

Brown, tongue in cheek, proudly said he had built some of the fastest airplanes in the world and now he was going to produce one of the slowest—and by the hundreds!

I became an employee of Brown Aircraft Company and went to work several days later.

One of my fellow workers was a fantastic character named Mott Haines who had designed many engines—especially two-cycle—one called the *Cyclomotor* used in an unusual aircraft in the 1930s. (Refer to U.S. Civil Aircraft, Vol. 5, ATC numbers 401 to 500 by Joseph P. Juptner, pages 132 to 134.) Mott had been semi-retired until he was talked into redesigning the old *Cyclomotor* for Brown's latest product. Mott was a priceless gem in a desert of glass stones insofar as he was totally self-taught in many subjects—chemistry, physics, engineering, etc. His numerous patents for engine innovations and his overall understanding of two-cycle engine designs were beyond my appreciation at that time.

Haines was the best draftsman I ever saw. He was fast and accurate—his drawings were a work of art.

In the late 1920s a pilot training system was devised and airplanes built

called *Cycloplanes* for teaching students to fly ostensibly as some World War I French pilots were taught. Mott Haines designed the engine. In 1945 Mott was working for Brown Aircraft Company redesigning and modernizing the powerplant so that it could be presented to the Civil Aeronautics Authority (CAA) for testing and certification as a licensed airplane engine.

The engine was a two-cylinder, two-cycle powerplant that developed 25 horsepower at 2500 rpm. (I well remember the day Mott had the inspiration for an "automatic" fuel pump system which he discussed with me just to develop the idea in his mind—then he sat down and designed it making all the drawings for the tooling, patterns, and the actual parts to be produced for use on the engine being built for our project.

Larry, Mott and I worked on the designing and the drawings for the little airplane which Mott one day named the BROWNIE (officially THE BROWN L-25. Along with his many other talents Haines had the ability to cartoon. His BROWNIE was a real work of art. It is my sad loss that his dashed-off drawing has been lost over the passing of the years.

At 10 o'clock each morning Larry, Mott and I went across the street to a small restaurant to feed George's tapeworm. Larry thought it very funny to tease me about always being hungry and the need to take George out and feed his tapeworm. During these sessions I listened to him talk—living history!

I learned what aviation was like in 1911, when Brown built his first aeroplane and taught himself to fly in his home-built flying machine, and hear him talk about years later flying his racing creations—the fabulous Brown Racers—which in a sense belatedly caused his death. Larry once told of how earlier he had had an engine of one of his racers fail on takeoff from old Mines Field (now Los Angeles International Airport) due to a failure of some experimental spark plugs he was testing. In the crash, as he said, he put his face through \$8,000 worth of instruments. I heard him tell stories of when he had flown against Pancho Villa while the U.S. Army was chasing the Mexican bandit, and his opinion as to why his *Turner Racer* became the *Turner-Laird PESCO SPECIAL*.

Later we were joined by another character named Don Naumann who



Cycloplane ground trainer.

(D.W. Carter Collection)



Cycloplane Model C-1.

(D.W. Carter Collection)



Larry Brown beside the Brown California Cub.

(Truman C. Weaver, USAF Ret.)



The Miles and Atwood racer built by Lawrence Brown Aircraft Co.

(D.W. Carter Collection)

checked all of Larry's engineering and did the work on all the technical reports on the formal stress analysis for submission to the CAA for approval under Part 04, C.A.R.

In confidence, Don once told me that Larry was one of the most amazing designers he had ever seen! Brown had no formal education as an engineer, yet after Don had mathematically checked the entire aircraft structure that Larry had designed, only one piece of steel tubing had to be changed to meet the C.A.R. strength requirements, and this *one* was only marginal. Remarkable!

Unfortunately, over the Christmas holidays in December 1945 Lawrence W. Brown had a blood clot (perhaps from his earlier crash) end his most interesting life.

Many times during the passing years I have remembered the man whose friendship grew so valuable in so brief a time—and he is deeply remembered even now some 37 years later. Lawrence W. Brown, at the time of his death, was a tall, thin, gentle man perhaps six feet two inches tall with a very pink complexion and a shock of snow-white hair. He had a

pleasant sense of humor (as his teasing me and my eating is an example), but he was close to unreasonable as a critic when it came to working on his airplanes. Even the most routine job of drafting had to be perfect! I still smart from the tongue lashing I received only once when I commented that I thought something was good enough. To Larry perfect was *almost* good enough. I also recall him saying that he could go 15 miles an hour faster with one of his designs than anyone else because he did make everything perfect.

The very short period of time I spent in the company of this almost forgotten personage was the high point in my aviation life. I was fortunate in that I went traveling with him often and whenever we went and whenever we attended airshows, or the like, I was included in all meetings with his old friends and introduced all around as a valued friend of *his*.

After Brown's untimely death the project went on under the supervision of Don Naumann and although he and I remained good friends, I left the project. I guess I'd have to say my reason for leav-

ing was based upon Don's decision to change part of Larry's *last* design, such as making the aircraft into a tricycle landing gear configuration rather than the tail-wheel type as originally planned by Brown.

Larry Brown's purpose in designing the *Brownie* was to put on every airfield a plane that could be flown cheaply, safely, and for the fun of it! He envisioned hundreds of them filling the sky.

The estimated selling price was \$750 in 1945 dollars.

Construction of the *L-25 Brownie* was: fuselage—welded steel tubing covered with cloth; tail surfaces—welded steel tubing covered with cloth; wing—all wood, built-up ribs, solid spruce spars, plywood leading edge covered with cloth.

The landing gear had rubber donuts as shock absorbers.

The propeller was wood, two-blade.

To my knowledge the airplane never flew. However, a friend of mine, Richard Bruce Lambert, once told me he had seen the remains in someone's backyard in San Diego, California.



The Brown B-2 Miss Los Angeles built in 1934.

(D.W. Carter Collection)

A FEW NOTES RE LAWRENCE W. "LARRY" BROWN

by Ivar L. Shogran

He was an adventurer and at least once a "soldier of fortune."

1. Born in Crescent City, Ca. (Date not sure, about 1893.)
2. At a young age he shipped out on a "Square Rigger" from San Francisco. Ended up in Callo, Peru. Couldn't stand the food and returned.
3. Learned to fly on Martin Pusher by "grass cutter method" at Martin Flying School in Griffith Park in 1914. Same model on which I soloed later. Also flown by Eric Springer.
4. In 1915 he was the total "air force" for Carranza flying a Christofferson tractor biplane with Curtiss model "O" engine. His operation was from Agua Prieta, Sonora, Mexico, just across the border from Douglas, Arizona. Larry demanded \$500 gold per month delivered in a bank on this side of the border.
5. He always carried a crushed bullet for luck in his wallet. It came up from a rifle below, through the lower wing and lodged in the upper rear spar. The path was through his head position as he normally looked out of the right side of the cockpit. A lucky miss.
6. Another hazard, he had to climb out through a narrow canyon and would be shot at by Yacci(?) Indians for target practice. After each flight the holes were patched for the record.
7. The bombs were two-inch pipes capped, and ignited by a match-type, friction device on a delayed fuse, operated by hand and thrown over the side. They were filled with black powder and nails.
8. In 1916-1917 he flew contract exhibitions teamed up with Ralph DePalma at fairs and race tracks (not barnstorming). His biplane was built by Jay Gage in an early factory on North Main St., L.A. It had a 90-hp Gyro rotary engine.
9. Test pilot for U.S. Army, 1918.
10. 1919 more exhibition work and finally building planes.

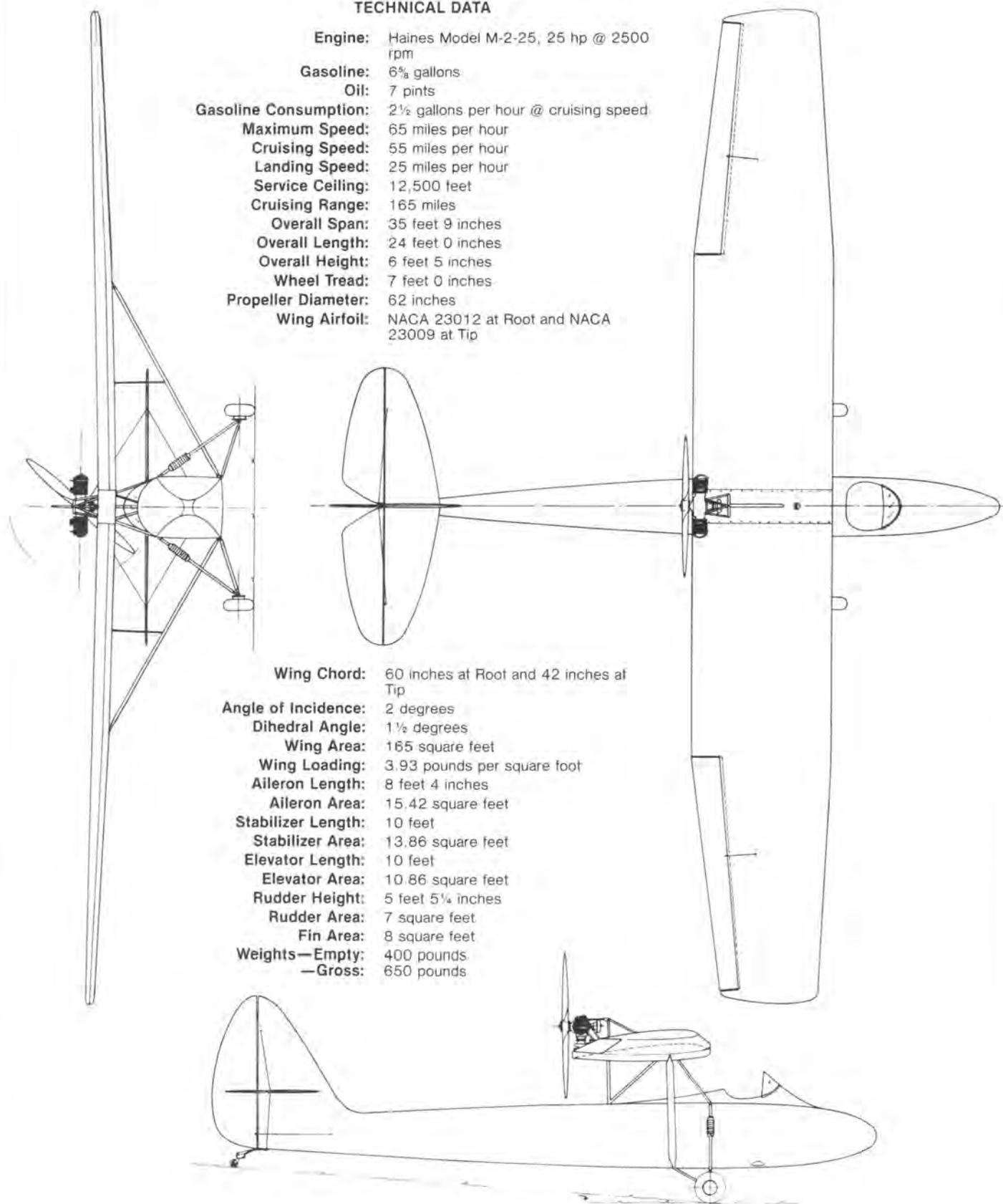
The Brown B-3 built in 1936.

(D.W. Carter Collection)



**MODEL L-25 BROWNIE SINGLE PLACE
HIGH WING MONOPLANE
TECHNICAL DATA**

Engine: Haines Model M-2-25, 25 hp @ 2500 rpm
Gasoline: 6½ gallons
Oil: 7 pints
Gasoline Consumption: 2½ gallons per hour @ cruising speed
Maximum Speed: 65 miles per hour
Cruising Speed: 55 miles per hour
Landing Speed: 25 miles per hour
Service Ceiling: 12,500 feet
Cruising Range: 165 miles
Overall Span: 35 feet 9 inches
Overall Length: 24 feet 0 inches
Overall Height: 6 feet 5 inches
Wheel Tread: 7 feet 0 inches
Propeller Diameter: 62 inches
Wing Airfoil: NACA 23012 at Root and NACA 23009 at Tip



Wing Chord: 60 inches at Root and 42 inches at Tip
Angle of Incidence: 2 degrees
Dihedral Angle: 1½ degrees
Wing Area: 165 square feet
Wing Loading: 3.93 pounds per square foot
Aileron Length: 8 feet 4 inches
Aileron Area: 15.42 square feet
Stabilizer Length: 10 feet
Stabilizer Area: 13.86 square feet
Elevator Length: 10 feet
Elevator Area: 10.86 square feet
Rudder Height: 5 feet 5¼ inches
Rudder Area: 7 square feet
Fin Area: 8 square feet
Weights—Empty: 400 pounds
—Gross: 650 pounds

Three-view drawing traced from original blueprint of drawing made by George E. Cull.