

“Working With Fire”

(Mort’s Aviation Experiences & History)



Mort Brown

Photo by Don Wiley

By

Mort & Sharon Brown
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TO: All Aviation Enthusiasts

FROM: Mort & Sharon Brown

RE: "Working With Fire"
(Mort's Aviation Experiences)

Dear Aviation Enthusiast:

Mort is the (first) retired Chief Pilot of Production Flight Test, Cessna Aircraft Company, from 1937 - 1972. "Working With Fire" contains selected aviation experiences from Mort's biography. The text in Mort's first presentation and CD, "Pistons, Props, and Tail Draggers" was an excerpt from this chapter. We have created "Working With Fire" for your enjoyment, as our "Return to the Community". (It contains historical photos, including Cessna Aircraft Company photos, that have been re-printed with permission.)

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We hope you enjoy "Working With Fire" as much as we enjoyed putting it together for you! Please visit us at our new website, www.mortbrown.info.

Sincerely,

Mort & Sharon Brown
Wichita, Kansas
Ifliplanz2006@aol.com

DISCLAIMER: Cessna Aircraft Company has not sponsored nor endorsed any part of this presentation.

“Working With Fire”

(Mort’s Aviation Experiences & History)



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TITLE PAGE

<u>TITLE</u>	<u>PAGE</u>
1. Cover Letter.....	1
2. Cover Page	2
3. Title Page	3
4. Dedication.....	4
5. Acknowledgements.....	5 - 6
6. Foreword.....	7
7. “Working With Fire”, (Mort’s Aviation Experiences & History)	8 - 43

Dedication

We dedicate "Working With Fire" to all of the men and women who have served our country, protecting our freedom, rights, and property.

We also dedicate "Working With Fire" to the pilots who have accepted the challenge to defy the tethers of Earth, in search of themselves and God.

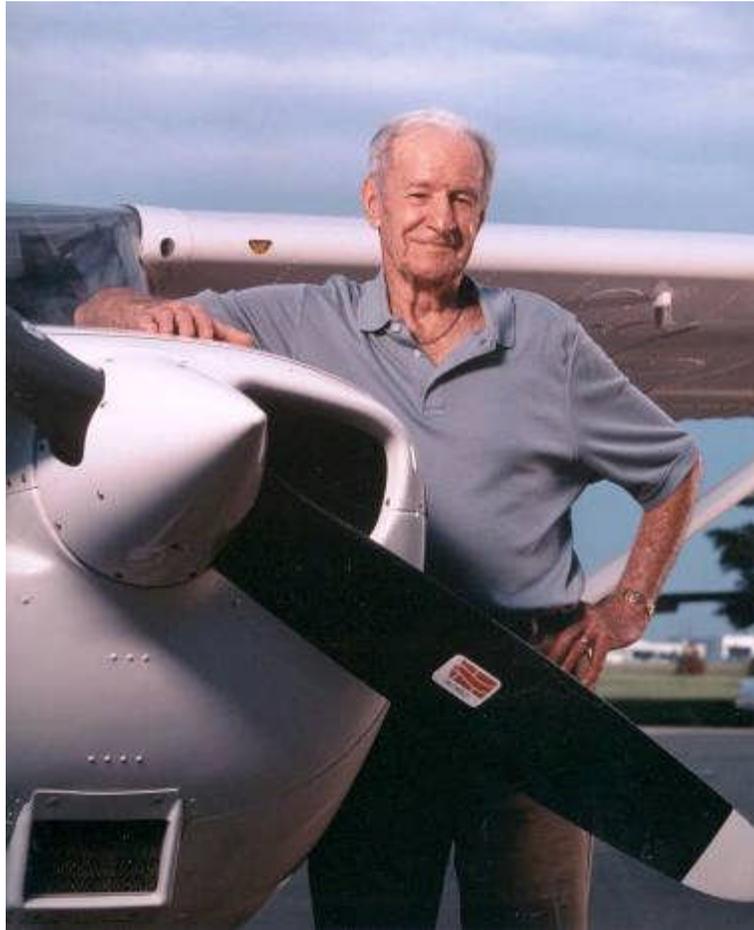
Next, we dedicate "Working With Fire" to all of Mort's pilot friends, for their friendship of a lifetime.

Finally, we dedicate "Working With Fire" to Ron, for making our website a reality, for everyone to enjoy.

May God bless you, now and always.

*Mort & Sharon Brown
Christmas, 2007*

Acknowledgements



Mort Brown

Paul Bowen Photography, Inc.

Mort expresses his gratitude and appreciation to Dwane Wallace, for the opportunity of a lifetime.

Next, we want to express our appreciation to Cessna Aircraft Company for permission to re-print photos for everyone to enjoy.

A special 'Thank you' to Paul Bowen, aviation photographer and great friend, for his permission to re-print Mort's photograph (above).

*To quote Mort, "Fly low and slow, and keep your nose down in the turns."
Mort & Sharon Brown, 2007*

Acknowledgements (continued)



*Production Flight Test Group February 21, 1955
Ted Hart, Mort Brown, Bill McNeil, Jim Greer, Doyle Worley*

*Thank you to the following team players for all of your
Contributions to Cessna Aircraft Company and
Production Flight Test (Pawnee Plant)
From 1940 to 1972:*

*Norman Blake
Prentice Cleaves
Mel Coeur
Henry Dittmer
Faye Edwards
Larry Entzminger
Hubert Feese
Ralph Fehring
Vic Gibson
Hugh Graham
Jim Greer
Ted Hart
Charles Hephner
Richard Hill
Harland Jackson
Ed Johnson
Dean Jones
Jack Mardis
Don Martin
Del Massey*

*Bill McCoy
Bill McNeil
Jack Melenrich
Ray Murphey
Ralph Primo
Ramsey
Don Richardson
Harold Seitz
Charles Seitz
Haskell Shaw
Ivan Spong
Gail Storck
Herald Thomas
Jack Thompson
Jack Tovani
R.P. Tucker
Jim Woolf
Doyle Worley*

And all of the secretaries!!!

Foreword

One day, after recording an interview session with Mort, I commented to him that he “played with fire”, because he has had so many close encounters with accidents and/or death. Mort replied, “No, I work with fire.” From then on, I knew “Working With Fire” would be the name of the chapter about Mort’s aviation experiences.

“Working With Fire” is the result of transcribing and compilation of approximately 50 cassette tapes over 12 years. We hope you enjoy reading Mort’s aviation experiences. Most importantly, we hope the pilots who read “Working With Fire” will learn and build from Mort’s experiences, without the ‘first person’ encounter.

Finally, we wish you the best in your journey to define who you are, and your relationship with God.

*Your aviation friends,
Mort & Sharon Brown
Christmas, 2007*

Mort was born at St. Paul, Minnesota in 1908. In 1912, his parents became involved in sheep ranching and the grocery business in Montana. About 1916, Mort's parents moved to Estes Park, Colorado.

When Mort was in grade school, a Curtiss Oriole was flown from Denver to Estes Park, which was the first airplane he had ever seen. From then on, it was always Mort's desire to learn to fly.

About four years later, the family moved to Denver, Colorado. In junior high, Mort ran across the AVIATION Magazine at a bookstand in the drugstore. It was a weekly magazine, so Mort became quite savvy on airplanes. Mort carried it to school, much to the dismay of the teachers. In Study Hall, he read about the world of aviation. In their spare time, Mort and his brother walked or rode bicycles to the airport, which was about a mile from their house. Some of the airplanes parked at the airport were: Hiss Standards, Curtiss Orioles, DH4, J1 Standards, Curtiss Jennys, and an Italian military airplane by Ansaldo.

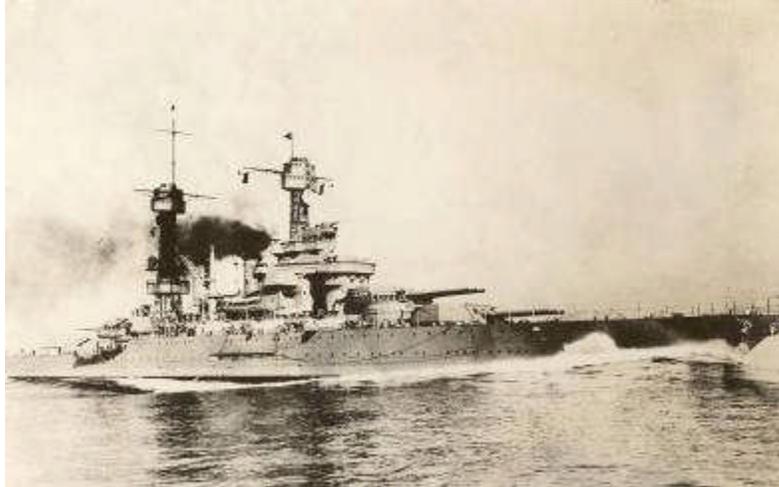


AVIATION Magazine

In 1927, Mort joined the United States Marine Corps with the sole purpose of becoming a pilot. However, the U.S. Marine Corps had other plans for him. Mort was assigned sea duty on the U.S.S. California, which included being stationed in Nicaragua, to prevent a political coup in the banana republic.



*Mort Brown 1929
Aboard U.S.S. California*



*U.S.S. California
(1st commissioned 1921)*

Ship Photo Gallery

Just before receiving his honorable discharge in 1931, Mort went across the street from the United States Marine Base, San Diego, to Ryan Aircraft Company. Claude Ryan looked Mort up and down in his uniform, and told Mort he could not afford to learn how to fly.

Mort's family knew he was interested in flying in the worst way. Mort's father interviewed several friends he knew at Western Air Express, along with others in the air transport business. One good friend of his knew of Eddie Martin in Santa Ana, California, who had established his own flying service. Eddie and his brother Johnny had had various opportunities to fly for American Airlines. The third brother, Floyd Martin, ran the airport in Santa Ana. (During World War II, there was some military activity at Santa Ana by the United States Marine Corps. After the war it was named the Orange County Facility. Later on, the name was changed to John Wayne Airport, acting as a traffic reliever for Los Angeles International Airport.)

Mort attended Eddie Martin's School of Aviation. Mort received instruction on: aircraft engines and construction, meteorology, aerodynamics, and air navigation. Mort soloed in a Travel Air 4000, NC 8893, which had a 110 HP, 7 cylinder Warner radial engine on November 18, 1931. After Mort soloed, he acquired his private pilot's license, #23862, on January 5, 1932, with 19.35 hours. Next, he moved up to a Curtiss Robin, which was a high-wing monoplane with an OX-5, 90 HP engine. Mort also flew a Curtiss Junior, which was a 2 place light airplane, with a pusher propeller powered by a 40 HP, 3 cylinder engine on the upper wing, aft of the cockpit. The next airplane Mort learned to fly, and acquired a lot of time in, was the Ryan B1 or a Ryan Brougham. The Ryan B1, NC 3648, was a 5 place airplane, powered by a 220 HP, Wright J5 engine. (The Ryan B1 was modeled after Lindbergh's Spirit of St. Louis.)



Mort Brown

Solo Flight

November 18, 1931



Mort Brown 1933-34



*Eddie Martin's School of Aviation Diploma
Solo Flight, November 18, 1931*

The next step to qualify for a transport license was acquiring additional flying experience. Mort made various cross country flights in southern California and up the coast, as far as Bakersfield, in the Travel Air, Curtiss Robin, and Ryan Brougham. The longest cross country flight at that time, was from Santa Ana to Denver, April 15 - 21, 1932, by way of Albuquerque and Colorado Springs in the Ryan B1. Mort was forced to land at Colorado Springs, due to the engine with a broken rocker arm. He went to an aircraft company that manufactured the Alexander Eagle Rocks for J5 engines, but they did not have any spare parts. The man in the shop was an expert mechanic, so he welded the broken parts back together. Mort flew the airplane to Denver to visit his parents, then back to Santa Ana, before the rocker arm was replaced.

A really exciting day was the opportunity to fly a Douglas M2 mail airplane, formerly owned and operated by Western Air Express. Western Air Express was upgrading to Boeing 40Bs; retiring the Douglas M2s. A friend of Eddie Martin's bought a retired Douglas M2 mail airplane. Mort asked him what he intended to do with it, to which he replied, he was going to haul fish in Mexico. Mort was still a pretty fresh student, just about to get his transport license. He knew Mort fairly well, so he asked if Mort would like to fly it. Mort just about blew his cork! Of course he would like to fly it! It had a

Liberty, 12 cylinder, 400 HP engine, which had to be started by pulling on the propeller. The landing area at Santa Ana was about 2100' - 2500'. Mort flew the Douglas M2 for about 30 minutes, shot a couple of landings, and brought it back in. Mort was as happy as a lark! However, he forgot to put it in his log book, which was the worst thing he had ever done! Mort was so excited! "Me! Flying a retired air mail airplane! No way!"

An early Santa Ana aviation story Mort recalls, was the instructor pilot teaching a young woman aerobatic maneuvers. The instructor put it into a roll, flying inverted. The instructor loosened his seat belt to turn around, to explain how to turn the airplane right side up. The instructor reached for his control stick, which was not fastened, so the instructor fell out, along with the chute and stick. The student did not understand what happened, so she unfastened her seat belt, and fell out of the airplane also. The airplane glided in for about 2 miles, resulting in crashing inverted. No one was hurt, except for bruised pride and a severely bent airplane. (They escaped by parachute, as parachutes were required when practicing aerobatics.)



Inverted airplane accident, circa 1933 Santa Ana, California

After obtaining his transport license in 1933, Mort went to work for a man named Spear in San Diego, giving student instruction in a Kinner monoplane. (At that time, a transport pilot's license was sufficient to train students.) Times were hard for an inexperienced pilot during The Depression, so Mort returned to Denver.

Pilot jobs were scarce even in Denver. Mort tried to sell neon signs, without any success. Mort bought some flying time in a Curtiss J6C Robin, just to keep up his license. Mort was checked out in a Stinson model A; along with a 1931, 1200 lb. Velie Monoprep, by Carlos Reavis. (The Velie Monoprep, NC-138K, was a 2 place airplane, 5 cylinder, 50 HP Lambert Aircraft Engine.) Mort began passenger hopping from the Denver Municipal Airport for Reavis Air Service in 1935.

On March 14, 1935, Reavis had to go out of town, so he asked Mort to fly with the students. Mort and a student went to fly the Velie Monoprep, which was used for student instruction. It was one of those flights that ended up in disaster. In trying to take off into

the wind, they had just enough thrust to get off the ground, but not out of the ground cushion. The smart thing to have done was to put it down straight in front of them. The engine speed was the right RPM, so all Mort knew was to keep the airplane level, to keep it in the air. Right after taking off to the south, the airplane started drifting to the left. All Mort wanted was to get back to the airport. Mort thought he needed to keep it going into the wind, so he did a 180 degree turn to the right. (Standard traffic patterns required left turns, but he dared not turn left, downwind, because Mort knew he would lose lift.) Mort turned upwind, which allowed him to fly back north. Well, it was mid-March, when the wind can be treacherous around Denver. Mort could not get the airplane high enough, so on the south side of the road leading into the airport, Mort had to go over the phone line, and under the power line. Directly in front of him were 3 or 4 farm houses, located just west of the airport. Mort passed the houses, and started to turn south for the airport landing. Mort did not make it. The airplane lost lift, and we crashed. The student bounced out of the airplane. People came running from the airport. One man put his finger on the fuel line that was leaking gasoline, while others pulled Mort out of the airplane. They took Mort to the hospital, where he spent 6 weeks trying to heal a compound fractured femur in his right leg. (Later on, Mort determined what happened was a sudden down draft occurred, which no one had forewarned him about. Also, the airplane propeller had just been flattened to increase static RPM, which did not allow enough thrust to get out of the ground cushion. Lastly, the engine needed to be overhauled.)



Mort's accident *March 14, 1935*
Velie Monoprep

Mort still wanted to fly after getting out of the plaster cast. Mort became acquainted with Ray Wilson, who operated a flying service at the Park Hill Airport in Denver. Mort worked in the shop doing odd jobs, including rebuilding a Curtiss Fledgling, which was powered by a 185 HP, Curtiss Challenger engine. It was a big, heavy biplane. Mort resumed flying, and re-qualified for his pilot's rating in the Curtiss Fledgling. Mort also qualified for an instructor's rating at the same time, as the Flying School wanted all instructor's to be approved and rated.

Taylor Cubs started coming out at that time. Ray had one with a 40 HP, Continental engine, 4 cylinders opposed. (A later version, known as an E2Cub, modified the cabin and refined the tail surfaces.) One day Mort had a student in the modified Taylor Cub, doing some touch and go landings. They were doing air work north of the airport, when the airplane started to sink rather rapidly. Well, after just having recovered from a bad accident, Mort kept the airplane at level attitude, with full power. The airplane just kept on sinking, as if the stick was back all the way. Mort tried to maintain left, because the airport was located on a bluff, above a stream known as Sand Creek. Mort let the airplane settle into the ground cushion, and, thank God, they flew the airplane back to the airport. Mort's student, being somewhat new at flying, said "What was that? One of them down drafts?" Yes, what they had encountered was a down draft of moderate proportions. It took the little airplane down below the airport level. If they would have tried to maintain altitude, they would have crashed. (About this time period, United Airlines was moving their DC-3s into Denver as an operating base. There were times when Mort had been in the air with one of the students in the Curtiss Fledgling trainer, and they could literally see patches of dust around, resulting from isolated down drafts. United Airlines kept their airplanes in the air, up to 30 minutes, to prevent an encounter with a down draft, when they were too close to the ground.) So, Mort kept his student aloft for about 30 minutes, until he felt it was safe to get back on the ground.

Ray Wilson acquired a Cessna dealership, and became a distributor for Cessna Aircraft Company. Dwane Wallace, President of Cessna Aircraft Company, approved of Ray Wilson. At that time, Cessna was producing the C-34, powered by a 145 HP Warner engine. The C-34 was known as the world's most efficient airplane.



Cessna C-34

The C-34 won the Detroit News Trophy three times in the Miami and Cleveland air races. The C-34 won its weight category, could carry 4 people over the most miles, with the least amount of fuel, at the greatest speed. (The C-34 offered hand crank wing flaps, which had to be cranked down with the left hand over the pilot's left shoulder to get the flaps down. Once a person learned to fly the C-34, one of the fine flight characteristics

was the ability to land the airplane almost as short with the flaps up, at a safe gliding speed to control the airplane to get on the ground.)



*Detroit News Trophies
National Air Races, 1935*



Amelia Earhart Trophy

Ray sold the first C-34 to J.B. Van Wagon, a Denver broker. (Van Wagon hired a fellow by the name of B.L. (Baxter) Ireland to fly his airplane.) Ray sold 2 more C-34s: one to Manning, Martin Drilling Company, and one to a Denver industrialist, J.K. Weckbaugh, who inherited a flour milling business. (Weckbaugh also owned a Deussenberg Roadster, which was always an attraction at the airport, and quite the upscale automobile in its day.) Mort flew the C-34 for Weckbaugh for a while, including a couple of trips to Omaha, Nebraska.

In September, 1937, Weckbaugh wanted to fly down to Santa Fe, New Mexico for a celebration. They had passed Pueblo, Colorado, when about halfway to Trinidad, Mort noticed the engine was acting peculiar. It wasn't very long until Mort realized there was something definitely wrong, because the engine was losing power. They flew the airplane back to Pueblo, where Mort discovered one of the 7 cylinders was cold. Mort took the rocker box cover off. The exhaust valve refused to open, because the adjusting screw in the rocker arm had dropped out. It was not exhausting fully, so they were running without power on that cylinder. Mort fixed the problem, and they took off again for Santa Fe over rugged territory. Just about the time they were ready to land at the Santa Fe airport, the engine quit cold! Well, lo and behold, ol' Brown forgot to refuel the airplane at Pueblo! Mort landed just off the airport.. Weckbaugh went to town for a can of gasoline. While Weckbaugh was gone, Mort decided to look around. Mort had just stopped short of a big irrigation ditch, about 4' deep and about 15' wide! Mort had not seen the ditch, because the territory was so flat, and he was trying to land the airplane, into the wind. As it so happened, the wind was parallel to the ditch.

It was spring of 1937. Bob McGrew, an orchestra leader, was going to open the Broadmoor Hotel (Colorado Springs, Colorado) spring and summer season. The music was on it's way from Chicago on a freight train. The freight train was held up, due to a washed out bridge at or near Norton, Kansas. Well, he had to have his music, so he called Ray Wilson. Ray sent Mort over to Norton in Weckbaugh's C-34 to pick up the music, along with a little Celeste piano. Mort arrived in Norton just after a rain storm, so the airport was muddy. After stacking all the sheet music onto the rear floor and seats, up to the top of the front seat backs, there was not enough room for the piano. That little airplane was very heavily loaded. Mort crawled into the airplane, over the sheet music, then across the back of the right front seat, which he pushed forward to accommodate the music. Mort started to taxi, and said, "Gee, I sure hope I make this," so then he thought, "Well, I can handle this." When Mort applied the brakes to make the right turns to taxi to the north south runway, the airplane would not turn. Mort knew by the way the airplane was taxiing that he was going to need all the runway he could get. Mort taxied to the north end of the runway, and still could not turn it around. Looking out of both sides of the airplane, Mort saw giant anthills on the left side of the airport runway. Mort finally steered it onto one of the anthills, and had enough braking action to turn the airplane around. Mort kept full power on, headed into the wind. It started to bounce along pretty good down the runway. (Intersections in those days were identified by what they called the airport circle, or a landing circle. There was a slight rise of about 2', in a running distance of about 1000'.) Mort went up the incline, lifted off, settled back down and bounced off the runway. Mort finally had enough lift to clear the row of trees at the south end of the airport, by about 20'. From then on, he stayed airborne. After experiencing running out of fuel a time or two, Mort flew to Goodland, Kansas. The airplane was refueled, and Mort took off on a paved runway. It was starting to get dark. Mort did not have any problems, except recognizing that he had a full load. It was a little hard to navigate at night, but the Rock Island Railway ran straight from Goodland, Kansas to Limon, Colorado, where it splits, right going to Denver, left to Colorado Springs. Mort had a lighted airway all the way into Colorado Springs. Upon landing, Mort leveled off just a little bit high, and the airplane stalled onto the runway. Mort was able to deliver the music to the orchestra leader, and he opened the season at the Broadmoor. Mort stayed there overnight, and enjoyed the program.

At this time, Dwane Wallace was flying out on the west coast, demonstrating a new Cessna C-37. The C-37 had a modified spun engine cowl, electric flaps, and a wider cabin at the shoulders. The C-37 also had an optional fuel tank (which was also offered on the C-34) to extend the fuel range from 34 to 52.5 gallons. (Fuel consumption was 9 GPH.)



Cessna C-37

The Original



Cessna C-37 on floats

New York City

Dwane came to Denver for an air show at the Municipal Airport. As repayment for referring some customers to Dwane, Mort was allowed to demonstrate his ability by flying the C-37, NC 18554, in the air race on September 12, 1937. A Beechcraft with a 450 HP engine took first place. Mort took second place, because he did not use full power all the way around. Dwane said Mort could have used full throttle, but Mort was afraid of over-stressing the engine. Dwane just laughed, and said that Mort could not damage the engine.

It was fall, 1937. Mort kept looking for more Cessna customers. Ray Wilson had a Curtiss Robin that was used as a passenger carrying airplane. Ray also acquired a Cessna DC-6A, one of the earlier Cessna airplanes, which was excellent for high altitude work. Ray became involved in aerial survey work, so Mort was checked out in the DC-6.

Eventually, Ray needed a full-time pilot for the aerial survey work. Ray hired a fellow by the name of Mark Schellenberg, who successfully soloed after Mort checked him out.



Cessna DC-6. 1930s

Denver, Co

(Mort Brown, photographer)

Later in 1937, Mort received a call from Dwane Wallace, asking if he would like to work for Cessna Aircraft Company. Dwane wanted someone to do the flying, so of course Mort jumped at the opportunity. Mort went to work for Cessna on December 26, 1937 as Sales Manager and Test Pilot. The company was preparing to introduce the C-38, known

as the Airmaster. The Airmaster incorporated a wider landing gear and a wider cabin than previous models; with a metal propeller as optional equipment. The C-38 was an excellent product coming out of The Depression years. Cessna only produced 13 C-38s the first year, which was rather lean, but it was a smooth production run.



Cessna C-38, Airmaster



Cessna C-38 with wide landing gear & belly flap



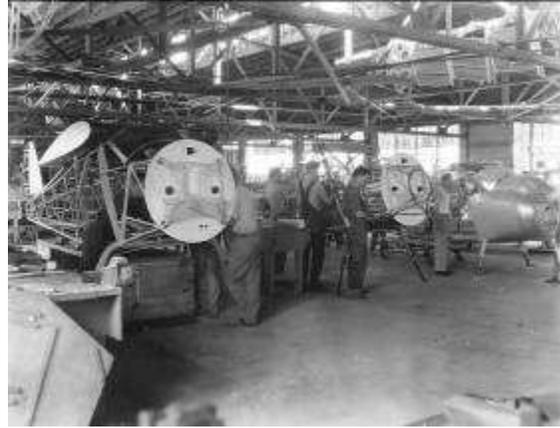
Cessna C-37, 38

Paint Shop

The following year Cessna came out with the C-145 Airmaster, with a Warner 145 HP engine. The C-145 had wider landing gear and hydraulic brakes. The C-145 had a hydraulic belly flap that was extended between the landing gear struts, and had to be pumped hydraulically by hand. Later, the C-145 was modified with electric mid-chord wing flaps, which gave it better performance landing in short fields. Warner also came up with a modified engine that was rated at 165 HP, which gave better take off, climb, and cruising performance. Cessna produced the C-145 and C-165 Airmasters until the outbreak of war. The Civil Aeronautics Administration (CAA), also known as the Department of Commerce (now the FAA), wanted two Airmasters built, which were tested and released.



Airmaster



Airmaster

Sub-assembly

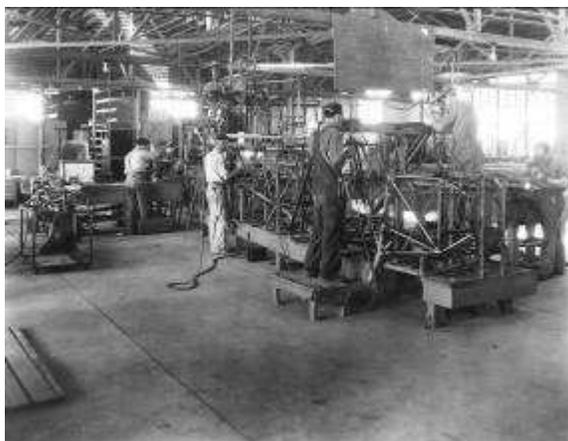


Cessna C-165

Mort flying

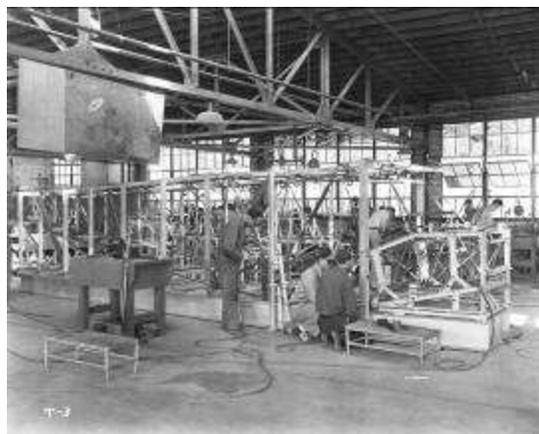
On December 16, 1939, Mort flew Richard Hall to Russell, Kansas in an Airmaster C-165, NX-20784 (**19497**). Mort saw a young man riding his bicycle on the improvised airport landing field. Years later, Mort realized the young man he saw that day was Bob Dole, who later became a Senator for Kansas..

With the design and development of the T-50, Mort was promoted to Chief Pilot of Production Flight Test. The T-50 was first experimentally flown by Dwane Wallace in mid-1939. The T-50 was among one of the first lighter weight twin-engine airplanes. The T-50 was a 5 place cabin, retractable landing gear, with two 225 HP Jacobs engines that cruised 190 MPH. The first contract Dwane secured was 33 AT-8s for the Army Air Corps. The AT-8 was equipped 290 HP Lycoming engines, with a hydraulic auto pilot for advanced training. Cessna continued on limited production runs, producing 30 civilian airplanes, until World War II was declared. The price range was \$5300.



Cessna T-50

(building the first T-50 fuselage)



Welding Shop



*Cessna T-50 1st Flight Dwane Wallace
Bill Snook, co-pilot
Mort Brown, photographer*



*Cessna T-50 NX20784
The Original
Dwane Wallace in cockpit*



*Cessna T-50 NX20784
The Original*



*Cessna T-50 NX20784
(Re-painted)*

The T-50 was nicknamed the Bobcat, after soliciting employees at Cessna. United States Army Air Corps General Mark Clark brought a bobcat in a cage to the christening, to emphasize the fact that this was a bobcat. Other nicknames the T-50 picked up were: Bamboo Bomber and Double Breasted Cub. The T-50 wings were built with wood spars, ribs, and fairings on the fuselage. It was a fairly light weight airplane, weighing 5100 pounds, eventually weighing up to 5500 pounds. Various versions of the T-50 were: AT-17, AT-8, UC-78 and the Cessna Cranes. There was a total number of about 5500 airplanes of the T-50 model that were produced between 1941 and 1944. (Included in the 5500 were 20 T-50s built for Pan American World Airways, for ferry pilot twin engine training.)



Cessna AT-17A, 1942

Mort flying



Cessna T-50

Mort flying

(Built for the CAA)



Cessna AT-8

December, 1941



Cessna AT-17 line-up

On May 6, 1940, Mort received his 3M, Twin Engine Rating from the CAA, Gordon Mathews, Aero Inspector.

On May 20 - 23, 1940, Tulsa and Wichita were hosting separate oil well drilling tool shows and exhibitions. Dwane Wallace convinced the oil operators in Tulsa to come to Wichita, to see equipment built by Cardwell Drilling Equipment Company. On this invitation, Dwane flew one courtesy round trip with four people, and Mort flew an additional fourteen courtesy round trips, transporting 52 passengers, for a total of 2900 miles.



*Oil Well Drilling Operators & Contractors
Tulsa to Wichita Courtesy Flights
May 20 - 23, 1940*

The Royal Canadian Air Force was looking for trainers, so Dwane and Don Flower, Sales Manager, went to Canada. Dwane secured a contract for 150 airplanes, which was later expanded to 700. A third contract was secured with Canada for 1600 airplanes. The Canadian versions were known as the Cessna Cranes I & II, which were delivered to training schools across Canada. The first delivery of Cessna Cranes consisted of 4 airplanes on January 2, 1941, RCAF 7657 - 7661. It was a very cold day. It was so cold, they could not get the airplanes re-started after landing to re-fuel in Sioux City, South Dakota. They had to put the airplanes in the hangar overnight, and continued their journey to Winnipeg by way of Fargo, North Dakota.



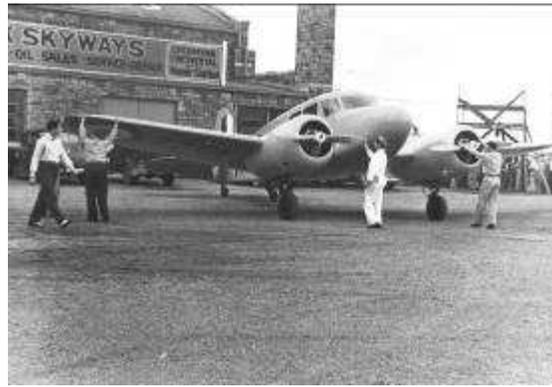
*Cessna Cranes
Royal Canadian Air Force*



*Cessna Cranes
Ferry to Canada
May 30, 1941
Sioux Falls, S.D.*



Cessna Cranes



Sioux Falls, South Dakota

May 30, 1941

(Ferry to Canada)

(Mort Brown, Photographer)

The first T-50 Mort flew was an AT-17A, which also went to Canada. The Cessna Cranes were painted yellow with the Canadian roundel on the fuselage and on the wing tips. The Canadian numbers were about 3 feet tall on each side of the fuselage, with red, white, and blue vertical stripes on the vertical fin. After the war was declared, the Canadians took the stripes off, putting stars and bars on the fuselage. Many United States citizens went to Canada to join the Royal Canadian Air Force, to go abroad and fly in the war.(1)

1) United States Army Air Corps General Bradley's book, A Soldier's Story, included a story when General Bradley taxied up in a UC-78, to an overseas base flight line full of sophisticated bombers. No one had ever seen a UC-78. It really made Mort proud to know one of Cessna's airplanes made it overseas, and recalled in such a great book.

Some of the early T-50s were bought by the CAA for regional headquarters, such as: Kansas City, Chicago, Los Angeles, etc., for airway patrol and checking radio equipment. While Mort was developing flight test procedures for the T-50, Mort ran the airplane up to the VNE speed, or the never exceed speed. The airplane developed a shake in the empennage, which could destroy an airplane at certain high air speeds. Mort tried it a few more times, and brought it to the attention of management at Cessna. Mort spent 6 weeks to 2 months trying to resolve the problem through aerodynamics, such as: wool tufts, trailing tapes, sealed up elevator stabilizer gaps, etc. Finally, Dwane Wallace and Tom Salter, Chief Engineer, decided it was on the inside of the airplane. Cessna resolved the problem with what they called the weighted elevator walking beam in the elevator control system, where they put a 2 x 6 inch metal tube filled with lead, welded onto the elevator drop arm which was connected to the elevator push pull rod. The balanced walking beam was installed in all of this model's production for the CAA, as well as the Canadians and civilian customers. The CAA had about 7 - 10, which was later followed up by another the contract with the Canadian government. The next contract from the Army Air Corps

was the AT-17. The Army Air Corps contract modified the elevators from a straight hinge line to a weight balanced overhang.

It was Saturday morning, August 24, 1942. Mort went out to pick up an AT-17, 238758, for flight test that had just come off the production line. The airplane did not have enough fuel in the tanks for the production flight procedures. The airplane was being refueled by tanks in the ground, while the tanks were being refilled by the trucks from the municipal airport. After the airplane tanks were topped off, Mort took off to the East. Mort had been out for about 1 minute, when the left engine quit. All gauges were normal. Mort turned around to fly back to the factory, when the right engine quit. Mort turned back east, headed into the wind, and picked out a pasture to land in. About that time, up over a rise came several head of cattle, which changed his mind on that procedure. Mort turned the airplane slightly to the left and crossed over Pawnee. Mort had just enough clearance to land, gear up. There really wasn't much damage to the airplane, except the engine mounts and splintered wooden propellers. Mort was unable to get anyone on the radio at Cessna or nearby Beech. Mort flagged down a couple of people going by in a truck, and wrote a note requesting help from the factory. Dwight Wallace came with some employees to make sure Mort was all right. They found water in the fuel tanks and carburetors. What happened was, the water was stirred up in the ground tank, while the truck was refueling the fuel tanks. Mort was getting about ½ gasoline ½ water at the same time, resulting in at least ½ tank of water in each fuel tank. The employees pumped the water out, and refilled the airplane tanks with gasoline. The employees put on new propellers, so Mort could fly it back instead of towing it. After landing and taxiing in to the Pawnee plant, both engines quit again! All gauges were normal. When Mort finally reached the factory, they discovered there was still over 5 gallons of water in each tank! Mort was just lucky in getting back to the factory!



Water in the fuel tanks

August 24, 1942



AT-17, NC 20784



Water in the fuel tanks

August 24, 1942



AT-17, NC 20784

Mort went to an airplane he had assigned himself to fly. The airplane was in the second row, parked nose to tail. Mort cranked it up, idling about 900 RPM. Mort completed the Army Air Corps pre-flight procedure, while waiting for them to get the airplane from out in front of him. (Mort also had an electrician in the back completing some paperwork on the engine.) All of a sudden: Wham! Bam! Blewy! Bliss! Mort thought, "What in the world is going on?????" Mort went to put the parking brake on, but it was already on! Now what happened? There were propeller splinters flying in every direction. The airplane had gradually crept forward, until it ran into the airplane in front of us. Afterwards, the Army Air Corps checked the wheel brakes during their inspection, and found about a tablespoon of sand in between the brake drum and shoe; acting like lubricant or ball bearings. (The previous day had been a very windy day.) Later, after removing the sand, the run up was okay, and the ferry command picked up the airplane with new propellers and cowling. (The propellers were only scuffed up, because the Army Air Corps used constant speed hubs, with black preg wood blades with a collar, to get pilots trained on constant speed propellers. Metal for propellers could not be used, as metal was a wartime critical material during World War II.)



Sand in the brakes (all three photos)

When Mort was a young pilot, Al Degarmo, an early air mail pilot, was working for Western Air Express, flying Douglas M2s with Liberty engines out of Salt Lake City to Reno. (Al was Mort's role model in my younger years.) Mort remembers one occasion, when Al flew Will Rogers from California to Wichita. Years later, Mort had the privilege of checking Al in a T-50, which made Mort quite ecstatic!

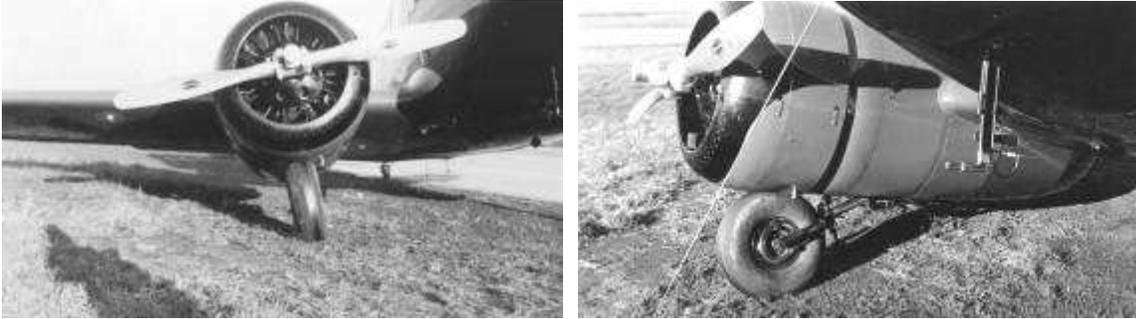
One nice, early spring morning the field was all muddy, so Mort decided to go to McConnell Air Force Base. There had been a heavy dew the night before, and the temperature was right at freezing point. Mort did his usual walk around, and everything looked normal, except some frozen droplets that had formed along the high point, of the thickest point of the wing, at the front spar. Mort thought to himself, "Well, that would be all right to go ahead and take off." Wrong!! Mort was just about to lift off, when the

wheel snatched out of his hand. Mort said to himself, “Get back on the ground, Brown!” After he knocked off all the droplets of ice off of the wing, everything was fine!

One morning doing procedural stalls, the airplane kept wanting to roll off to the right. Well, after having had a few experiences, Mort looked at the leading edge for the source of the problem. (The oil tanks and filler necks were both on the engine nacelles, inboard on the left, outboard on the right. The dipsticks had a chain with the oil tank cap attached, to keep the oil tank caps and dipsticks from falling off.) It was a windy day, causing oil to blow onto the leading edge of the right wing, collecting dust from the air, which acted like a spoiler. Mort looked at the oil and dust, and had the line crew wipe it clean. On the next flight, the stall was normal. (It just goes to show how sensitive the leading edge of the wing is. Mort has had people bring airplanes back and say the airplane wants to roll out of a stall. Mort has wiped smashed insects off the leading edge, and then it stalls normal every time!)

It was 1942. The Kansas City CAA had accepted a T-50 in the middle of winter. The pilot was a former airline pilot. The CAA wanted him to go to the western shores of Hudson Bay for patrol work. At night, the pilot parked the airplane in the hangar, so he could drain the oil, heat it up in the morning, and move the airplane back out the next day. In the process of moving the airplane in and out of the hangar (nose first), the pilot had to move it tail first over an 8 inch riser, which was moved 3 or 4 times. The pilot brought the airplane to Wichita for service work. (In the meantime, he was checking the copper wiring in the overhead, and injured his left hand. The pilot’s hand became infected and hurt so bad, that he could not fly back to Kansas City. Mort said he would fly him back, and have someone fly to Kansas City to pick Mort up.) Mort fired up and took off for Kansas City the T-50. It was a nice, windy day, and made it to Kansas City in about an hour flat. Landing to the southwest, they had just touched the landing gear wheels and let the tail wheel touch down. When the tail wheel touched down, the right landing gear wheel came forward. The propeller cleared the ground by about 3 inches. It did not damage the propeller. “Well! What in the world happened?” When the airplane was being moved out of the hangar in the Hudson Bay area, the welded cluster at the rear strut of the rear wheel was stressed. When the airplane touched the tail wheel down, it put enough load on the right wheel, to allow the rear brace strut (and wheel) to come forward. If it would have gone backwards, it would have damaged the propeller and engine.





*T-50 with collapsed gear (four photos)
Kansas City, 1938
(Mort Brown, Photographer)*

Another incident Mort remembers about the T-50 days, was a production flight test pilot taking off one morning, going east over at Cessna, when all of a sudden he lost both engines. He immediately started wobbling the wobble or boost pump to get him around the patch and onto the ground. What happened was, when the gear retracted, part of the fuel line was separated by the gear retraction in a joint, so he had to pump gasoline across the open space to get enough fuel to both engines.

Just as an FYI: Mort recalls in the late 1940s, Beech purchased 6 or 7 T-50s to fill the gap between their model 18 civilian production to satisfy some of their customers, which set them up to buy their model 18. 3 of the airplanes were lost in a big fire at the old municipal airport. (Cessna also lost an Airmaster and a T-50.)

The last time Mort flew a T-50 professionally was in the 1950s. An aeronautical engineer and test pilot who worked in Production Flight Test at Cessna, went to work for Vaught. He purchased a UC-78 to develop an angle of attack and a stall warning. The last 2 T-50s or UC-78s Mort flew were for pleasure in 1998 and 2004.

After the war and peacetime was restored, the first development was a 2 place airplane known as the model series C-120 and C-140. The C-140 had manual trailing edge flaps, an electrical system, and a rear window; while the C-120 did not. Over 3500 combined models were sold in the first production year. Mort made the first production flight test on June 28, 1945, NC 41682, for 25 minutes, which went on for approval for flight testing. The first production of the C-140 began on March 8, 1946. The first C-120 production flight test, XB-DIR, was on June 11, 1946, which went to Mexico. Cessna also produced the C140As, which was all metal. Over 7500 combined models were sold from 1945 - 1949.



Cessna C-120 on skis



Cessna C-120



Cessna C-140, 1945

The Original



Cessna C-140, 1947



Cessna C-140A

All Metal

(Mort flying)

Mort recalls on the first run of the C-140A, he was about 4 - 5 miles away from the plant, when the engine started missing on one cylinder. Mort turned around to go back to the plant, when he lost power in another cylinder. Flying on 2 cylinders, Mort returned to the plant, landed, and taxied in. Mort had the mechanic check the engine over. A spark plugs had been put in finger tight, with the mag wires slipped to them. Whoever

installed the spark plugs had not checked to see if they were snug. Due to the quality of the airplane, Mort was able get on the ground safely, which impressed a lot of people; besides being a great lesson.

While production was going on for the C-140 and C-120, the model series 190 & 195 were being developed. The prototype was developed in 1945. Mort flew the first production C-195 flight on July 28, 1947, NC 4399N. On October 29, 1947, Mort flew the first production C-190 flight, NC 4368N. The original model C-190 incorporated a welded rounded oxygen welded steel tubing fuselage, fabric covered and a 2 piece wing patterned after the Airmaster, but scaled up. The Airmaster grossed out at 2250 lbs to start out with, and ended up at 2300 lbs. The C-190 series was scheduled for 3300 lbs. Later on, Cessna decided to go to a 1 piece wing with a metal fuselage. The C-190s were equipped with 240 HP Continental engines, while the C-195s were equipped with either 275 or 300 HP Jacobs engines. The 190 - 195 production ran from about 1946 - 1955, with about 1200 in the series, of which Mort flew 850 first flights. (The C-190/195 was Mort's favorite airplane.) Included in the 195 series was the contract with the United States Army Air Corps, known as the LC126A. The Army Air Corps contracted about 15 LC126As, which were sent to Alaska for observation purposes. The Army Air Corps also contracted 160 of the LC126A for ambulance airplanes. The LC126A was followed up by contracts with the Army Air Corps for 2 other versions, B & C.



*Cessna C-190
January 2, 1948*

*Mort flying
NC4326N*



*Cessna LC126A
(Military C-195)*

Mort flying



Mort flew the first C-310 production airplane in 1951, which was the first light twin after the war. The C-310 was equipped with 2 - 240 HP Continental engines, with the very latest radio equipment. The C-310 was designed to cruise at 200 MPH, with 220 MPH as top speed. The C-310 was produced from 1954 - 1960. The Cessna Pawnee plant built over 1300 of the C-310 series A, B, C and D. 32 were built in 1954, 262 in 1955, and 226 model C-310C, In 1960, C-310 production was moved to the Wallace plant. Several modifications were made on the C-310D, which included a swept vertical fin and rudder. The airplane proved to be very popular nationwide. The Army Air Corps bought two separate contracts, for a total of 240 airplanes (160 U3A and 60 U3B). The Army Air Corps originally named the airplane the L27A; changing it later to the U3. The Army Air Corps used 60 U3A for liaison purposes and personnel transportation.



Cessna C-310 *First Flight*
Hank Waring flying



Cessna U3A *Mort flying*
(Military C-310)

During the C-310 production years, Boeing was building the B-47. The training school was at McConnell Air Force Base, so air traffic was pretty heavy during those days. (We had to wait until a B-47 passed, and get out there just before the next one. Otherwise, an airplane could get in the wash of a B-47, get turned over and dumped quickly. Needless to say, it was a tight arrangement.) One day, the traffic was very heavy, flying about 7 - 8 B-47 crews. It was about sunset. Mort and the radio man in the rear seat had spent the afternoon calibrating automatic approaches for a new C-310. Mort forgot the landing gear completely, and put the airplane down, landing gear up, and skidded for a moment. Mort commented it was too noisy, so he kicked the rudder, got it off the runway onto the snow and ice, which quieted things down a bit. Landing gear up skinned the belly and bent the propellers. The embarrassing thing was, the customer was waiting in the delivery center for his airplane. He commented to the supervisor, "Hey! Did you see that guy land without the gears down?" to which the supervisor replied, "Yeah, that's your airplane!" After the factory re-skinned the belly and put on new propellers, we flew it again. We landed with the gear down, and everyone was happy.

The next airplane to come off the production line in 1956 was the C-336. The C-336 was a push pull airplane, with an engine in front, and one in back of the cabin, with twin

booms, fixed tricycle gear. The C-336 wasn't very fast, so it went out of production after building 197. The C-336 led to the development of the C-337, which had a retractable gear with an improved engine, cooling system, and design in the engine compartments. The C-337 had an angle of attack that was changed by 2 degrees for better nose down characteristics. It had better visibility over the nose, and an improved performer. However, difficulties were encountered in production. Engineering had to resolve the problem before Production Flight Test would release any airplanes. Several C-337s were sold commercially until its termination in 1975. The 336 - 337 models were also known as the Skymaster.



Cessna C-336 Mort flying in front



Cessna C-337, Camouflaged Mort flying (Military export)

As the war in Viet Nam was proceeding, the United States Air Force decided to have C-337s for air controllers. Cessna came up with a design that suited the United States Air Force, known as the O2A & O2B. The B model was a propaganda spreading airplane; whereas the O2A was a combat observation airplane. The O2A was equipped with sophisticated radio systems, rockets, and wing mounted machine guns.



Cessna O2A Mort flying



Cessna O2B Mort flying

Mort flew the first production model of the C-336, which had a problem rolling over onto its back, out of the stall. The Manufacturing Manager didn't believe him, so Mort told him "Come on, let's strap on a 'chute and go for a ride." Several people were standing around the flight line, because they knew Mort was going to show him what the airplane was doing. They took off, climbed to 8 - 9000' for a stall demonstration. The C-336 rolled over onto its back, and began to rotate in a slow spin for about 3 - 4000'. The Manufacturing Manager was pretty nervous watching the ground go 'round and 'round. However, Mort was pretty confident of what the airplane would do. Mort leveled off, and it came out very nicely. (You don't want that kind of a characteristic in an airplane, because if you're ready to touch down, and it lets go, you have problems.) They landed and taxied to the flight line. The Manufacturing Manager was a pipe smoker. He pulled out his pipe from his pocket, put a little tobacco in it, but he could not hit his mouth with the pipe stem, to save his life!!!!

One day Mort was performing the usual stall while testing one of the early C-336s. The C-336 rolled over onto its back, out of the stall. Normally, the C-336 would go right over on it's back and come out of a stall. Mort asked himself, "What's wrong?" Mort did a couple of more stalls, and it did the same thing. Mort flew back to the factory, and said, "Hey guys, there's something wrong here!" Mort told them he thought it was the leading edge, like dirt or something. Engineering took it up, and said there was nothing wrong with it. Finally, it was discovered the shop was doing a short cut on forming the leading edge, using what they called 3 Farnam rolls. In order to do that, the factory had to stop the machinery, which caused the rollers to put a ridge across the leading edge, acting like a spoiler on the one side. In order to fix the problem, Engineering took a metallic file and smoothed the leading edge out, to reduce the rise when the jig rollers were stopped.

One day Mort had the inspector flying with him in a 336, doing some production flight testing. The procedure called for feathering the prop, so Mort feathered the front prop. It was okay. Next, the rear prop. They were down by Wellington, heading west, trying to re-start the airplane, which was gradually sinking. The inspector looked over at Mort, and said "Can't you get it started?" Mort said "No, it wont start." The inspector then replied, "When are you going to do something?" To which Mort replied, "I am trying to do something!" Eventually, Mort was able to get it started, and they landed safely back to base.

On February 16, 1970, right after take off, Mort heard a peculiar noise in the aft section of the C-337 airplane. It became apparent that the elevator system had become disconnected. Mort flew the airplane for awhile to determine control suitability, using the trim tabs, retracting and extending the landing gear and wing flaps. (Mort had to determine how much trim would be required when the airplane was slowed down, to calculate the necessary amount of runway to get the airplane down safely.) Mort requested approval from the United States Air Force to land at McConnell Air Force Base, who gave approval. At the end of the approach to the runway, or overrun, Mort brought the power back and trimmed for nose up. The nose refused to trim up, so Mort started to advance the power, when, all of a sudden, the nose pitched up. Mort couldn't

figure out why, so he reduced the power, landed safely on the runway, and taxied back to the Cessna flight line. During the last 2 miles of final approach, McConnell had their crash helicopter flying beside Mort all the way. Mort analyzed what happened. During production flight testing, before taxiing out and taking off, the pilot checks all the flight controls for conformance: push the right rudder pedal forward, left rudder pedal forward, elevator up, elevator down, left and right ailerons. Everything was fine during pre-flight. After taxiing back to the factory, they removed some of the fairings lower section on the left fin. It was discovered the bolt had been inserted without the nut, onto the linkage that connected the push pull rod to the elevator. Consequently, right after take off, the bolt fell out of the elevator push-pull rod. Mort was able to get the airplane back on the ground with no further adieu, because the airplane had good flight stability characteristics.

On another C-337 production flight on December 17, 1961, NC 2106X, Mort went to check the stalls with the gear down, but the landing gear failed to extend. Mort tried it several times. Well. Mort thought he would see what was jammed. Mort advanced engine power maximum, rolled into a tight right turn, pulled back firmly on the elevator controls, at the same time actuating the landing gear. He tried this several times; no dice. Finally, it looked like he was committed to land with the gear up. Mort checked the airplane out with the flaps, and slowed down to anticipate how much drift he might encounter. Mort thought there was no use in ruining 2 propellers, so he feathered the front one. The factory was advised of his situation, who called McConnell Air Force Base to send over a fire truck. Mort made the approach and landed on the runway. Fortunately, the rear propeller stopped in the horizontal position, so neither propeller nor airplane were severely damaged. All that was damaged were the belly skins.

On July 1, 1969, Mort flew out to Hamilton Air Force Base, California with a mechanic to check out a fuel flow problem, and correct the same. The O2A was to be ferried to Asia, by way of Honolulu. However, flying from Wichita to Hamilton AFB, the O2A had to stop and refuel at several airports along the way. Mort had flown the airplane through flight test and squawked it 3 or 4 times for fuel flow problems. On the last production flight test, it appeared normal. The "O" ring in the fuel flow control developed a tear in it; therefore leaking fuel. The mechanic replaced the fuel flow control "O" ring, which resolved the fuel flow problem. The airplane was test flown again to check out the fuel flow control for normal operation.

One day, one of the production flight test pilots was going to take off north, so he taxied to the south end of the runway. A B-26A Martin bomber had just passed the airport going east, when he was ready to take off. About that time a Beech airplane was going by, and saw that the B-26A was trailing smoke. Somebody talked to the pilot by radio and let him know he had a smoking engine. The airplane started losing power, so he was being forced to land on the new runway at McConnell Air Force Base. (The B-26A had a hydraulic oil leak in the hydraulic system that caused failure of the gear.) The Cessna pilot decided to move out of position, because he could see the B-26A coming over the hill (there is a slight rise between Cessna and McConnell). As the B-26 came

over the hill, the right wing went down due to landing gear failure, across the road between Cessna and McConnell. It stopped there. The hatch covers flew open, 2 crew members crawled out, while 3 more departed the fuselage. They took off running, because they thought the airplane was going to blow up or catch on fire. They were not hurt, but they were really chilled.

In the meantime, the market demanded a lower priced airplane, which resulted in the development of the C-170 fabric covered wing series. The C-170A came next, which was all metal, straight hinge trailing edge flaps, equipped with the Continental 145 HP engine and a conventional rudder system. The nominal price range was \$8 - 12,000. The C-170A had an all metal wing, re-designed tail surface, with more appealing flight characteristics. The C-170B was designed with more dihedral and full trailing edge flaps, which reduced the landing speed quite considerably. The wing flaps were slotted, which contributed considerably and desirably of more lift, for both take off and landing.



Mort & C-170

1952



Cessna C-170 & Mort

#10,000 Since the end of the war

The war in Korea demanded a light observation airplane, which resulted in the development of the C-305, which was a great airplane. The US Army gave it the model number L-19A. The difference between the C-170B four place and the L-19 was a 2 place airplane with a more powerful engine, and a modified fuselage for such purposes that the military required. 3100 L-19s were built. 3000 were built at the Pawnee plant, and 100 at the Wallace plant. The L-19s were equipped with a 213 HP Continental engine. There were several variations of the L-19. The TL-19D had a complete set of flight instruments in the rear seat area, with a constant speed propeller and control. 25 of the model, known as the OE-2, were built for the United States Marines Corps. It was slightly faster, due to increased power from a TSI turbo charged, 470 cubic Continental engine producing 270 HP. It had electrically operated flaps, with flap curtains to protect the crew.



Cessna L-19

Mort flying



Cessna L-19 on floats

Hank Waring flying

(Experimental)

As time progressed, the need became apparent for tricycle landing gear, so the C-172 series was designed. There were several models of the C-172. Mort flew the first production flight test on October 6, 1955. The last model of the C-172 Mort flew before retiring was the C-172L. Several were sold to the United States Air Force as trainers at the USAF Academy. Some upgraded versions were used for advanced utility transport work for the Army, designated the T-41B, or Mescalero. The T-41B was equipped with a Continental 210 HP engine, with a constant speed propeller to give it better take off and climb performance. Production Flight Test had released over 7000 C-172 models by Mort's retirement in 1972.



Cessna T41B Mescalero

Mort flying

On June 3, 1966, Mort had the ailerons disconnect during the first flight in a C-172, where the nut and sprocket fell off of the dual control column, disabling the aileron control system. Mort requested assistance on the radio for somebody from production flight test to come and fly formation with him, speak for him, and watch traffic, so he could concentrate of maneuvering the airplane by rudder and elevator. It was a nice, windy day. Mort became quite apprehensive, because on windy days the pilot has to keep the airplane level using the ailerons. Mort finally landed and taxied back to the factory.

(The way the yokes were built on this airplane required putting two wheels on, or dual controls. However, whoever bought this airplane did not want a wheel on the right side, so they put an adapter on, running a bolt through the yoke to accommodate the sprocket.) The dummy bolt would not support the control wheel; hence, the nut and bolt fell out.

The next series was the C-180, which was a good old-fashioned tail dragger type. The model C-180 went into production in 1954. The C-180 was a 4 place cabin, in the \$12,000 range, a 210 HP engine, with cruising speeds of 150 MPH. The airplane was popular due to its increased performance.



Cessna C-180

Mort flying

Mort recalled one day, a C-180 was sitting on the runway at Cessna. The wake turbulence from a B-47, about two miles out on the south end of the McConnell Air Force Base, lifted the C-180 about four feet, then dropped it onto the north-south runway (at Cessna).

A customer purchased a model C-180, with a Bill Lear Wing Leveler in it (an auto pilot). The customer wanted the aileron control wing leveler taken off, and have Mort check it afterwards. After becoming airborne, the nose seemed very heavy. Mort could not trim the nose up. Mort slowed the airplane down, landed, and taxied back to the flight line. When they took the auto-pilot off, the stabilizer control was reversed; so Mort was trimming the nose down when trying to trim up, which gave an extra - heavy load on the pitch control.

On December 1, 1965, Mort was checking out a military C-180 with an United States Air Force officer. They were about a mile out, coming straight in for landing. As they were touching down, a model C-150 landed on top of them. Looking out the windshield, they could see the nose wheel and propeller turning. Finally the C-150 pilot realized he had landed on their airplane, gave it full power, and lifted off. (They had seen the C-150 take off. The C-150 flew a very short pattern, and landed on their 180, instead of going out and coming in on a straight approach.) Everyone was fine, including the airplanes.

The C-182 series was developed due to the need for a faster airplane. The C-182 series was a tricycle gear airplane, which proved to be a very popular airplane, just as it is today. Several thousand were built. Mort flew the first production flight test on January 20, 1956. Mort also had the pleasure of flying out the 100,000th airplane on May 19, 1972.



Cessna C-182 #100,000 Mort flying

The next series was the Cardinal, which came out with fixed landing gear, Lycomming engine, with full cantilever wings instead of lift strut, like the C-172. In 1971, Cessna came out with the C-177RG Cardinal, which had a retractable landing gear, and considerable improved performance.



Cessna 177RG Mort flying

Mort recalled a customer who stated he couldn't keep his C-177 airplane from rolling off to the left out of a stall. He wanted Mort to fly it. Mort went out and just happened to put his left hand up on the leading edge of the wing. About 2/3rds of the way out, was an area of rough over-spray! Mort asked the flight line foreman to remove the over-spray off with rubbing compound. Mort noticed a young man watching us, and he thought Mort was crazy! But, they went flying, performed the stalls again, and it fixed the problem to roll off.

The following series was the C-185, which was basically a C-180, with a higher HP engine, higher load capabilities, with good all around characteristics of a high wing airplane. The C-185 was exported, and had several adaptabilities, including a belly pan fastened to the belly of fuselage. The military version, known as the U-17, was used in Korea and South Viet Nam.



Cessna U-17 *Mort flying*
(Military C-185)

Another series was the C-188 Skywagon, which was a crop duster. It was an interesting airplane, and had several characteristics.

The next series was the C-205, which was a larger airplane with a 6 place cabin and a more powerful engine. The C-205 was followed by the C-206 series, which was a C-205 with a large cargo door on the right and higher gross weight. The C-206 series was expanded to the C-207, which had a larger passenger capacity, up to 7 place cabin. The C-206 and C-207 were also used for ambulance service because of the large cargo door, and could hold up to two stretchers. The C-208 series were built at the Wallace plant.

Another important model was the C-210 series. The C-210 was a very wonderful airplane, of which many were sold. The model C-210 was originally approved in 1956, but did not go into production until 1960. The outstanding features of the C-210 were retractable gear and a 260 HP engine. In the earlier versions, the airplane was adapted as the fixed gear, C-206 series. The C-210 picked up the name Centurian, because it was the 100th series airplane. It was a strut braced airplane to start with, and then it went to cantilever brace in the H and J models. Mort thinks they went to a larger engine, the Continental 520, with 285 HP and higher gross weight. The last model being produced when Mort retired was the C-210L. It was a really nice, clean, fast airplane, and stayed in production through the 1980s or early 1990s. The C-210 helped to establish Cessna's reputation of producing very fine airplanes.



Cessna C-210 Robert Crawshaw flying

In 1954, Mort logged his 10,000th hour, pictured here with Dwane Wallace. In 1971, Mort logged his 20,000th hour of actual flying time.



*Mort Brown & Dwane Wallace
October 5, 1954*



*Cessquire
June, 1971*



Cessna Aircraft Company, Pawnee Plant



Dwane Wallace & Mort Brown 1952

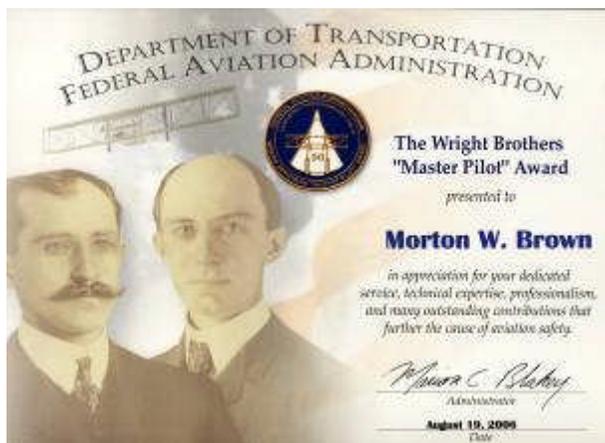
Note by Sharon: During Mort's 34, almost 35 years with Cessna, it has been calculated that Mort was responsible for releasing over 85,000 airplanes through Production Flight Test, of which Mort personally logged over 14,000 first flights. Mort has accumulated over 20,760 actual flight hours on various airplanes. Mort has been inducted to the Legion of Honor and the Hall of Fame for the OX5 Aviation Pioneers, for his contributions to the aviation industry. In August, 2006, Mort was awarded the FAA Wright Brothers Master Pilot Award.



OX-5 Legion of Honor



OX-5 Hall of Fame



FAA – The Wright Brothers “Master Pilot” Award

We hope you have enjoyed “Working With Fire” as much as we enjoyed creating it for you. To quote Mort, “Fly low and slow, and keep your nose down in the turns.”

*Mort & Sharon Brown
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Early Airplanes Flown by Mort

<u>Number</u>	<u>Airplane</u>	<u>Engine</u>	<u>HP</u>
8893	Travel Air 4000	Warner	110
7145	Curtiss Robin	Curtiss OX-5	90
10931	Curtiss Jr	Szekeley	45
3648	Ryan B1	Wright J5	220
618M	Fleet Bi-lane	Kinner K5	100
3557	Travel Air 2000	Curtiss OX-5	90
637Y	Waco F	Kinner B5	125
13707	Kinner Sportster	Kinner K5	100
13750	Kinner Sportster	Kinner K5	100
13791	Kinner Sport Wing	Kinner B5	100
8493	Ryan B5	Wright J6-9	300
8842	Travel Air C-4000	Curtiss Challenger	185
	Douglas M2		
790M	Curtiss Robin	Wright J6-5	175
10856	Stinson Jr	Lycoming R680	215
252H	Curtiss Fledgling	Curtiss Challenger	185
240W	Stinson Detroiter	Lycoming R680	215
467N	Travel Air 4D	Wright J6-7	250
16407	Cessna C-34	Warner	145
16454	Cessna C-34	Warner	145
8668	Curtiss Fledgling	Curtiss Challenger	185
1675	International F17		
138K	Velie Monoprep	Lambert 5 cycle	50
313Y	Great Lakes 2T 1A		
11318	Great Lakes 2T 1A		
564E	Waco 10		
13701	Kinner Sportster		100
17086	C-37	Warner Scarab	145
	Most Cessna series 1930s- 1972 (see next page)		
3174	Bach 3-CT-9	Pratt & Whitney 2 Wright J6-7	420
377E	Curtiss Robin	Curtiss Challenger	
18554	Dwane's C-37		
15025	Taylor Cub E-2	Continental A40	37
17986	Taylor Cub J-2	Continental A40	
14060	Waco UKC	Continental R670	
14201	Kinner Sportster	Kinner B5	100
18048	(1st day) Cessna C-38B	Warner Scarab	
14314	Fairchild C-8-C	Warner	
18032	C-37		
15442	Porterfield 70	LeBlond	
14391	Fairchild 24		
427N	Monocoup 125	Warner Scarab	
	Monocoup 90		(owners: B & D Nois)
	Stearman 6-P	Wright J5	
	Waco YKX-6	Jacobs L4	
	Travel Air 6000	Kinner B5	
	Star E Cavalier		

Cessna Airplanes Flown by Mort (Partial List)

Cessna C-34

Cessna C-37

DC-6

Cessna Airmasters: C-38, C-145, C-165

T-50 (AT-8, AT-17, UC-78)

Cessna Cranes I & II

C-120, C-140, C-140A

C-150, C-152

C-170 A & B

C-172, C-175, T41B (Mescalero)

C-177, 177RG

C-180

C-182

C-185

C-188 Agwagon

C-190, C-195

C-205, C-206, C-207

C-210

C-310 A, B, C, D & U3A & B

C-336, C-337, & O2A & O2B

C-303, C-305, L-19A, TL19D

C-321, OE-1 & OE-2

