THE STEARMANS

by Ed Betts

During WWI the US production of aircraft for use here or abroad was primarily limited to the Liberty-powered DH-4 and the OX-powered Curtiss "Jenny". These were both open cockpit biplanes; the DH-4 was designed as an observation plane and the Jenny as a trainer. When the war ended the Army had a huge supply of surplus planes and motors available to the public at a cheap price. Many were in mint condition (crated and ready for shipment overseas). The Post Office Department used a fleet of the DH-4's (along with former Army pilots) when it set up their own airline to carry the air mail. The Jenny soon became the popular airplane for the private pilot (there was little else available) and with it the era of the "Gypsy" or "Barnstorming" pilots. With any potential market for small or private aircraft already saturated, many of the wartime factories folded (Curtiss was saved by a "takeover" by the C.M.Keys interests in 1921).

The one PO airway and air mail service soon stretched across the nation on the northern route between NYC and the SFO Bay area. In 1923, with the lighting of the central portion of the airway, an air mail letter could go from coast to coast in about 33 hours (4 days by train). Congressional legislation, passed in 1925, called for private operators (awarded by bid) to take over the flying of the air mail. The first bids were for "feeders" to the main line. Western Air Express (WAE) was among the original carriers, with a service between Los Angeles and Salt Lake City (via Las Vegas), that began on April 17, 1926. Another early carrier was Colorado Airways, that began service between Cheyenne and Pueblo (via Denver and Colorado Springs) on May 31, 1926. In 1927, Boeing Air Transport was flying the western part of the "main line" (between CHI and SFO), and National Air Transport (owned by the Keys interests) the section between CHI and NYC.

WAE had used a couple of DH-4s for their initial route survey work, but used a fleet of seven Douglas M-2s for the mail. The Liberty-powered M-2 could carry a 1,000 lb payload and, if space permitted, a passenger could be accommodated. WAE was one of the few operators to show a profit after the first year, mainly due to the extra revenue from the passengers carried. Colorado Airways could not continue with the losses incurred (plus a technical violation of its contract) and the route was taken over by WAE, with no payments involved for the contract or the "good will". The official date of transfer was 12/10/27. This was known as WAE's "Mountain Division", with Lewis W."Lew" Goss in charge.

Lew, who was in the Colorado National Guard at the time he was hired on November 11, 1927, was combination Traffic Manager and Reserve Pilot. Home base was at Denver. The Boeing Air Transport plane left Concord (east of Oakland) with the eastbound air mail (only) at 7am (connections were made at SLC at 3pm with WAE's flight from LA) and was scheduled to arrive CYE at 7:15pm (and leave at 7:30). Mail from PUB-COS-DEN was scheduled to arrive at 7:00pm for the connection. The westbound plane arrived CYE at 4:30am and the flight to PUB departed at 5:00am. Two pilots were based at DEN and alternated taking the 24 hour 398 mile trip which started out from there at 6pm. After arriving at CYE he slept on a cot in the hangar until departure the next morning with the flight to PUB via DEN and COS. Arrival was at 7:45am and at 4:15pm he departed north back to DEN via COS. The scheduled flying time for the round trip was 4 hr 30 min. It was a one day on, one day off rotation (and no vacations). All 4 of the airports served were in the "mile high country": PUB is 4726', COS is 6172', DEN 5333' and CYE 6156'. The airway was well lighted for night flying, but there were no radio facilities for navigation or communication.

Colorado Airways had been using the Standard biplane and later the Ryan M-1 on this route. WAE chose a small fleet of the latest model Stearman, known as the C-3B (or C-3MB when outfitted for carrying the mail). By later comparison, the Stearman planes were relatively unknown, but they were soon to be one of the most popular light aircraft ever built. During WWII the Boeing-Stearman, which was mass-produced for the Army and Navy (the "Kaydet" or British "Cadet"), was the aircraft used for primary training to teach hundreds of thousands of aviation cadets how to fly. Technically, the Stearman Company as an entity lasted but about 5 years, but it left its mark in aviation history.

Lloyd Stearman, the founder and President of the company until he sold out to Boeing in 1931, was born in 1898 in Kansas. He attended Kansas University for two years and learned to fly in 1920. From 1919 to 1923 he was a mechanic and engineer with the Laird Airplane Company, from 1923-1925 he was chief engineer with the Swallow Airplane Co., 1925-1926 the chief engineer and director with Travel Air Mfg.Co.(along with Clyde Cessna and Walter Beech). All were located at Wichita. In 1926 he formed his own company in Venice, CA. Four planes were built before he relocated the plant to ICT, where he was joined by Mac Short, who was VP and Chief Engineer with the company until 1937 (when he went with the Vega Company). Mac was also a native Kansan, born in 1897, graduated from MIT and learned to fly in 1922. Another engineer was Hall Hibbard (1927-1931), who later (1932) was VP, Chief Engineer and Director with Lockheed. The team designed the C3B series, a basic design which would identify all Stearman aircraft for decades to follow. By 1928 the company had tripled its factory space and the number of employees increased from 50 to 190.

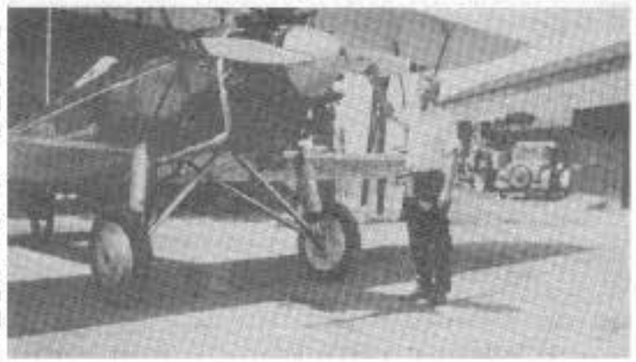
The model numbers depended on the type of engine used and generally these were interchangeable, which would change the performance data (speeds, range etc.), weights (empty, useful and payload), factory price etc. The C3 series generally was powered by the 220hp Wright J-5 or 225hp J-6 engine, although others such as the Hisso, OX-5, Menasco and Seimens-Halske were used. Five M-2 model, the "Speedmail", which was a much larger version (with a 525 hp "Cyclone" engine) were built for Varney Airlines in early 1929. Others included the C3R, dubbed the "Business Speedster" (with the J-6 engine), the LT-1 (enclosed cabin, only 3 were produced) and the 4 series. The 4 series was a larger airplane (dubbed the "Junior Speedmail") and used the full NACA low drag cowling with various Wright or P&W engines in the 300 to 420 hp class. The basic design of the Stearmans included a wide front cockpit (33") which could accomodate two passengers or, when covered with a metal cover, had 33 cubic feet of space for mail.

Other (or later) options included night flying equipment, dual flight controls and instruments, steerable tailwheel, generator, battery and electric starter (instead of the hand-cranked inertia type), prop spinner, pilot headrest and a cockpit heater (which worked off the engine exhaust pipe, located on the underside of the fuselage). All of the C3B, C3MB and C3R series were about the same size: fuselage 24' long, 35' upper wing span and 28' lower wing span for a total wing area of 296 square feet. Payloads with a full tank of 68 gallons of gas varied from 330 to 450 pounds and the range from 550 to 620 miles. With 65% power the cruise speed was from 108 to 112mph and landing speed from 41 to 47mph. All had a first minute climb rate of 1000', but this performance was at sea level and not at CYE. Like most "tail draggers", with the cockpit located in the rear, the runway straight ahead was blanked out by the engine in front of the pilot when making a "three point landing"...taxiing was a series of "S turns" with the pilot's head out of the side of the cockpit. The basic factory price was from $8,500 to $9,000 ($12,500 to $16,000 for the 4 series). About 249 of the C3B, 38 C3R and 42 of the 4 series were built.

WAE's initial order was for three C3B's, with the following company fleet and registration numbers plus delivery (or promised for delivery) dates taken from Stearman files: #200 NC3709 12/10/27, #201 NC3863 12/28/27 and #202 NC4011 1/21/28. Later on, the following were ordered as replacements or additions to the fleet: #203 NC6495 12/10/29, #204 NC8820 5/17/29 and #205 NC774H 3/22/30. The latter, #205, was a Model 4D. Other airlines, besides WAE and Varney, that used Stearmans to carry the mail included: National Air Transport, Texas Air Transport, Interstate Air Lines, National Parks Airways, Continental, American and Hanford.

Lew Goss, WAE Trafffic Rep **Reserve Pilot at DEN.**

According to Lew Goss, prior to delivery of the first Stearman, WAE used an M-2 for their preliminary test flights before starting regular service. Corliss Moseley (one of the company founders and Operations VP), was at DEN, along with Lew, to watch the first flight depart. A few minutes later there was a phone call: a plane had crashed. They drove to the scene of the fatal accident. Apparently the pilot had run into a snowstorm and spun in. For a short time the entire operation was shut down, then Boeing Air Transport flew the route for awhile, until Lew brought in the first Stearman from ICT. Ed Eschelman flew the inaugural flight. Royal Leonard (hired 4/4/28 and TWA to 1934) was also among the original pilots on this run. WAE's contract was for $0.83 per pound of mail carried (compared to $3.00 per pound on their LA-SLC route). During the year 1928 WAE was paid $45,416 for carrying 54,718 pounds of mail on the CYE to PUB route, and a 96% completetion of schedules. It was the second highe: capita in the USA. One of the reasons WAE was a financial success was their aggressive advertizing or promotional programs with local organizations about the value of air mail. In 1929 the pounds increased to 99,148 and the revenue to $82,043.98.



Melvin 'Mo' Bowen, **Reserve Pilot** and Mechanic **for WAE at** Denver.

On 11/12/28 Melvin O. "Mo" Bowen was hired by Goss to be combination mechanic and relief pilot. Mo's break came when Eschelman resigned (to Boeing) and he became the regular pilot in early 1929.

Later on in 1929, Charlie France replaced Goss, who was assigned to set up a new LA-KC division. This route, (passengers only) would compete with TAT by flying between LA to KC during the day with train connections at night (to or from the east). Goss used the Stearman for his route surveys and during the construction of their own airports at Kingman, Holbrook and Albuquerque. Service was inaugurated in early June, a month ahead of TAT.

Pilot Ed Eschelman with inaugural WAE mail flight Denver to Cheyenne. On hand were Post Office officials Supt. F.O. Reed, Agent F.C.Rockey, Agent C.I.Fitzgerald and other Denver officials.

Royal Leonard transferred to fly the new run out of LA and Mo Bowen out of KC. Dave Hissong became a regular pilot (based at DEN) when Leonard transfered and Ivan Huston filled Mo's vacancy. On 5/7/29, Ivan Huston departed DEN...later, after taking off he ran into a fog bank, spun in and was killed (plane NC3709). Other Stearman accidents (all were in the DEN area and no details are available) were NC8820 on 1/6/30 and NC3863 on 8/30/30 (pilot McMillan was killed). All occurred prior to the origin of T&WA.

WAE Stearman NC8820 painted in the company dark red and silver colors with Indian head insignia.

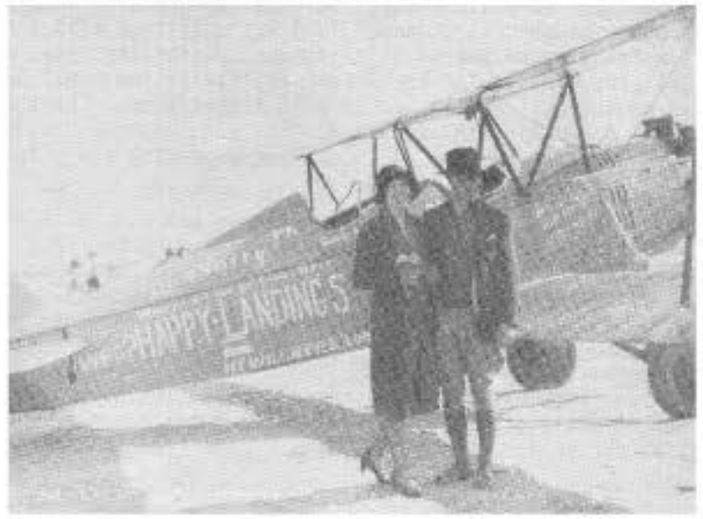
When T&WA was formed, in October of 1930, all of the TAT-Maddux assets (ground or air equipment, airports or terminals etc.) were part of their "ante" for ownership of the new airline. WAE retained certain of its assets, such as, the contract mail routes (San Diego-LA-LAS-SLC and CYE to PUB) and part of their fleet (including all Stearman planes and a few Boeing and Fokkers). The CYE-PUB (mail and passengers) route was extended to ABQ and AMA on 8/1/31; among the pilots on the inaugural flight were Dave Hissong and Frank Niswander (TWA pilot 10/16/34 to 1964). After the infamous air mail cancellation in 1934, Wyoming Air Service took over the route.

Transcontinental Air Transport (TAT) had been formed in May 1928, by the Keys group, with Charles Lindbergh the technical advisor. Until July 7, 1929, when they inaugurated their 48-hour coast-to-coast service (fly by day and train by night) their main activities had been the construction of new airports and the facilities at Waynoka (OK), Clovis(NM), Albuquerque and Kingman. Jack Herlihy (a MIT graduate who learned to fly with the Navy in 1924, and had logged 4,300 flying hours) was the company chief engineer from 1928 to 1930 (and later the Exec VP of Operations for United). On 10/9/28, according to old company records, TAT bought NC6410 (later this was TWA fleet #207), a Stearman C3B, for $9,868,35. Old Stearman records show the plane was first delivered to Skyways Inc., of Flint (MI) on 9/24/28.

Little is known about TAT's use of a Stearman other than a number of photos of Herlihy (with goggles and parachute) standing by the plane at several airports which, at the time, were under construction. A second Stearman C3B, NC8815, originally delivered to Lawrence Turner (in NYC) on 5/13/29, possibly saw service with TAT. However, there are no company records to confirm this, and it was not part of the merger into T&WA.

The next C3B Stearman to be a part of the T&WA fleet was NC8814 (fleet #206), which Stearman Company records show was first delivered to a Mr. W. Wrightsman (at Shreveport, LA) on 4/22/29. This airplane was to be a very important part of TWA's early pilot instrument training and qualification for an SATR license (Scheduled Air Transport Rating, as required by the Department of Commerce). I happen to have Capt."Tommy"Tomlinson's logbooks on hand at the time of writing this article and can quote some data direct. Tommy joined Maddux Airlines, as VP of Operations, on 1/1/29. Maddux, at the time, had a fleet of Fords and a Curtiss "Robin". His logbook shows that he made one flight with a Stearman on 1/19/29, and again on 7/3/29...his remark in the logbook was "beautiful flying ship". On 7/23 he ferried the plane from Clover Field (Santa Monica, CA) to the Glendale Airport. Company records (Maddux) show the plane was purchased on the next day for $3,125.76.

July of 1929 was when TAT first inaugurated service and the merger with Maddux was in the formative stage. Tomlinson's log shows that he spent as much time flying the Fords and Stearman as he did "flying a desk"; over 900 flying hours between the time he joined Maddux and the merger with T&WA in October of 1930. The Maddux routes extended from Glendale south to San Diego and Agua Caliente, Mexico, and north to Alameda/Oakland and Montery (CA). Tommy frequently made trips over these routes with the Stearman as well as flights to Lake Tahoe and other resorts which Maddux possibly might serve. When the merger with TAT was made, Tommy made the arrangements for Barstow to be a "hub", with direct connections to the SFO Bay area. He also made a personal survey of TAT's route as far as Clovis,NM, which included the WAE stops (both Kingman and ABQ Airports) as well as Holbrook, Gallup and Zuni between Winslow and ABQ. The leg between Glendale and Winslow was at night. This was in May 1930, and a second trip was made that month (with Maintenance Foreman Bill Hughes) to inspect a Ford which was damaged making an emergency landing in rough country SE of Fort Sumner,NM. He flew 10 hrs in one day on that trip. Prior to the TAT-Maddux-WAE merger, Tommy and Hughes made an inspection tour of every station east of LA to Clovis. The leg from INW to ABQ was at night. On the return they spent the night at Cottonwood (AZ) due to storms in the area. They logged



Tommy and Ginny Tomlinson about to leave on their honeymoon.

Besides these cross-country flights over rough terrain, poorly mapped and few emergency landing fields, he used the plane for numerous local flights in the LA area...it was much more relaxing than fighting the auto traffic, faster and convenient. These included business calls to Alhambra (WAE's airport), Mines Field (LAX today), Lockheed-Burbank (a 5 min hop), Pomona (a speaking engagement and Palm Springs (honeymoon). Tommy and "Ginny" were married in January 1930, and were in Palm Springs when word was received that a TAT-Maddux Ford had crashed near Oceanside. Their honeymoon was interrupted for several days due to the urgent business with the company. His last series of flights with the Stearman was for an air meet at the Glendale Airport: 5 min to BUR and 5 min return for a close "fly by", 15 min for a "dead stick" landing demonstration, 15 min for "balloon busting" and 15 min for aerobatics (Tommy was one of the best at this type of precision flying).

Fred Pastorius also got some time in the Maddux Stearman. Fred had been hired as a mechanic, riding in the right seat of the Fords as "Mate" (comparable to a Flight Engineer today, except the "Mate" rode with, and was responsible for, one airplane). Fred also had some pilot time and his "break" came when a tire was needed in Fresno for a Ford...he took a tire to Fresno in the Stearman and for this he was paid 5t a mile! Fred also took a charter flight of two passengers to Lake Big Bear in the San Bernadino Mountains. On 8/6/30, he went up for a 20 min checkride in a Ford (and a check of the right motor) with Tommy prior to his demonstration to a government inspector for a transport license.

According to the merger agreement between TAT, Maddux and WAE the aircraft to be included in the T&WA fleet were as follows: from TAT came 11 Fords, 1 Robin and 1 Stearman. Former Maddux planes included 10 Fords and 1 Stearman, and the former WAE planes included 10 Fokker F-10s (tri-motor), 3 F-14s (single motor) and 2 F-32s (4-motor). Aircraft values, at the time of the merger, were calculated on a two year depreciation, motors 1,500 hours. The former Maddux Stearman's value was set at $1841.20 and TAT's at $9733.17.

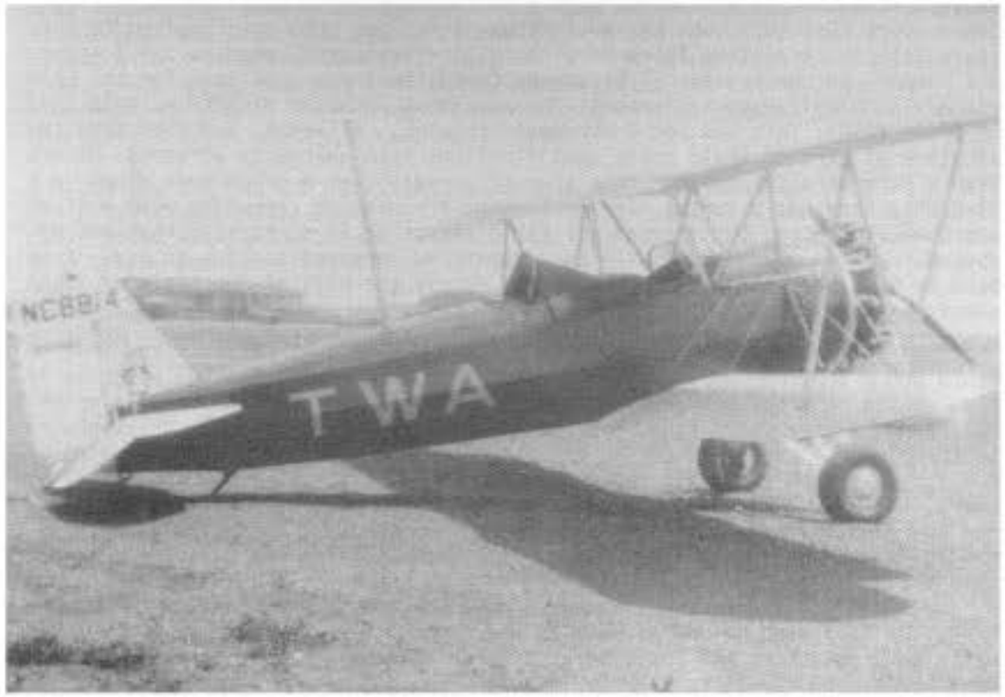
Until T&WA took delivery of a fleet of Northrop "Alphas", in March of 1931, to carry the air mail the Stearmans and F-14's along with some other single-motor planes were used for this purpose. It was immediately apparent that a number of veteran pilots (and non-veterans) needed some instruction on how to fly instruments...the basic needle, ball and airspeed to keep the plane level, turns and other maneuvers. Stearman #206 was outfitted with a hood on the rear cockpit which blocked the pilot's forward visibility (but not peeking out of the side) plus a radio for low-frequency navigation. Hal Snead, a WWI pilot, had been an instructor with Jack Frye's flight school (part of Aero Corporation of Calif.) before joining WAE in May of 1930. Hal was assigned as T&WA's instrument instructor and was considered an expert by the pilots.

Howard Hall, then flying the mail between EWR and CMH with the "Alpha", told how the T&WA pilots first learned there was such a thing as the "Cone of silence" associated with the new Adcock low-frequency radio range for navigation (they knew of the radio, but not of the "cone"...it sounded like a gag, such as a "Snipe Hunt". A group of the air mail pilots were on a layover at CMH and doing some "hangar flying" or sleeping in the cots upstairs in the terminal building when Snead flew in with the Stearman. "Dutch" Smith, an expert on instrument flying from his days with the PO air mail, went along on a demonstration flight with Snead...his report to the other pilots described the cone (when directly over a radio station) and the benefit of knowing your exact location for an instrument approach.

A big improvement for instrument flying had been made by TAT mechanic Charlie Cane, who was the first to compensate the turn-and-bank (3 degrees per second) which made it possible for a pilot to time his turn (before the gyro or artificial horizon).

With instrument flying came checkrides by the "Feds". Ted Weaver once told me about the first check ride (I don't know the date). Ted had flown into CMH on a Ford trip and John Collings asked him to "volunteer" for a checkride with an Inspector Murphy. Ted agreed, and Murphy taxied the plane to the end of the runway. After all of the suggested or required maneuvers had been completed, Ted asked if he might try a "wingover" (a dive and then pull up in a vertical climb and roll around the vertical axis, and then level off). The instruments didn't show Ted that he had gone too far with the climb attitude as he had the plane inverted as if doing a loop. After recovering from this position, and leveling the plane, he inquired about the inspector. There was no answer. Ted looked over the hood just as Murphy was climbing back into the cockpit; he had neglected to fasten his seatbelt! Ted passed the checkride.

Besides the training, the Stearmans were also used by the pilots to make landings at all of the emergency fields (part of route qualifications) on a route they were to fly. Ken Blaney wrote about his qualifying for a proposed night freight operation between EWR and MKC using the F-14. On 7/24/31, flying #206, he landed at every emergency field between CMH and EWR. The next day, with the same plane, he flew from CMH to HAR and return with a steel chest of film.



TWA Stearman NC88814 complete with a hood over part of the rear cockpit for instrument training. Note the tall antenna just behind the rear cockpit for low frequency range reception.

On 10/31/35, Paul Richter (Operations VP) made a detailed report to Jack Frye of every accident or incident that had occurred since October of 1930. There were a total of 169 reports, some very minor, which included damage done, the cause, cost of repairs etc. Among the Stearman accident reports were:

On 10/13/30 (pilot Bob Supple) the gear failed landing at Trenton, NJ. A total of $1,097.50 to repair plane #207. On 7/30/31 $133.87 damages to #206 (broken spar lower wing panel, Steve Welsh the pilot), due to blind cockpit (forward visibility while taxiing) restricting visibility. On 8/1/31 #207 was severely damaged at Trenton (pilot Supple); the wreck was sold at book value. The report blamed the accident on structural failure of the landing gear.

On 8/27/31 #206 had a broken spar in the lower wing panel ($151.00 damage) due to a groundloop after landing at Groom, TX. "Pat" Gallup was the pilot. He was exonerated from any error..."due to the ground looping characteristics of the plane". On 10/21/31, plane #206 had $404.85 damages landing at CMH followed by a groundloop and structural failure of the gear (pilot Jack Lynch). On 3/12/32 (near CMH), Hal Snead had the covering come off the right wing in flight. The damage was listed at $262.58, and the cause "due to age of the plane and type of construction". Hal had another incident at Tulsa on 10/7/32: the left tire blown out, lower left wing damaged and rear spar cracked at rear strut fitting ($70.31 damage). The cause: "accident unavoidable, caused by whirlwind striking ship from rear while plane was taxiing on ground". This was the last report involving a Stearman listed in Richter's summary through August of 1935, although there were a number of incidents to follow.

NOTE: From here on, with regard to Stearmans with T&WA, I will be quoting from letters or phone calls from the pilots who answered my request for help. Those hired circa 1935-1937, who had an instrument rating, were not required to take any additional training. There is a change in fleet or NC numbers and I <u>assume</u> the company purchased several Stearmans (used) to train copilots for the SATR (Scheduled Air Transport license). The equipment includes NC669K and 482W (and or fleet #208). This was for instrument training, although a number flew the airplane as part of their route qualifications into emergency airports. Others flew a Waco or a Stinson for this tour of a region, or a group rode along in a DC-2/DC-3 (and had a party). The instrument training or checkride with a "Fed" was done at the copilot's expense...25c a minute or $9 an hour)...that was deducted from his paycheck. With this rating he received a raise in pay, from $190 to $205 per month, which helped to defray the cost of the training (and obtaining the license).

The T&WA Stearmans were equipped with a hood, dual flight controls and instruments and a low frequency radio for navigation. The navigation was a series of time-consuming problems: getting the student lost, and then the various orientation procedures (true fade, fade parallel, fade 90, etc.) plus the approach to the airport. Each orientation and approach took a lot of time, depending on how far away from the radio range the problem was started (including, in later years, the Link Trainer), how good the radio (ground or aircraft) was working and how adeptly the pilot reacted to the circumstances...which included learn-how to fly the Stearman! Naturally, since the copilot was paying for all of this training, practice and the rating ride by the minute, it was anything but a "joy ride" and the faster a maneuver could be completed satisfactorily saved money...a tail wind helped as well as peeking out from the side of the hood to definitely establish his position etc. When Fairchild wanted a demonstration of a steep 360 degree turn he would remind the student it was costing him 50 (a precise 360 degree turn took 2 minutes, no more, no less).

The earliest training which was reported to me was by Phares McFerren. "Mac" already had a some instrument time flying with "Benny" Howard and other United pilots prior to joining T&WA 4/27/35. His logbook shows he received 6:02 hours "blind-flying" with the Stearman with Ken Fairchild in June 1935. His remarks were: "the plane was rather old and decrepit, but flew OK, but the rudder was so sensitive we all removed our shoes while flying".

According to a number of the pilots who answered me, T&WA hired "Chick" Fredericks (4/1/35 and pilot 9/22/35) as an instrument instructor and there was a minor todo establishing his pilot seniority when he later flew the line (date of instructor or first trip as captain). Bob Springer received his instruction from Fredericks and rating from inspector Russ Delaney in 1936. Bill Ambrose had 3 hrs 15 min time with Hal Snead at Long Beach in January 1936 plus another 8 hrs (including a "warm up" period) with Fredericks and Delaney at KC a month later. Rudy Truesdale had the Fredericks/Delaney combination for 9 hours (with plane 669K which had been purchased from a Charlie Babb) in February. Rudy recalled how it was bitter cold and they wore fur-lined flying suits.

Johnny Magden had his training with Fairchild at Burbank and told how Ken made a landing...he groundlooped! From his position, under the hood, John couldn't tell what was going on or when it all might end (a damaged wingtip was the result). Ray Noland was among a group of copilots (hired in mid-1936) who were taking this training with Fairchild at BUR in the fall of that year. Delaney wasn't satisfied with the progress and the training was halted until April of 1937 (Bill Piper, Bill Sanders, Jack LeClaire and Dave Kuhn all received their training with Fairchild and rating rides from Delaney in early 1937. Dave Kuhn also mentioned an instrument check using the Stearman with "Doc" Mesker: "Doc" made the landing and ground looped.) The 1937 hires who needed a rating (such as Bob Buck and Roger Don Rae) received their training with Roscoe Donahoo and rating with inspectors Delaney or Douglas (at BUR using plane NC482W) in early 1938. This appeared to be the last of the training and rating rides using the Stearmans with T&WA. Other single-engine biplanes continued to be used for the emergency airport and route qualifications.

Besides the limited use for carrying the air mail, instrument training plus a few private pilots (sportsmen), crop dusting kept many of the <u>original</u> Stearmans flying during the pre-war years. Starting about 1933, the Stearman Division of the Boeing Aircraft Company (located at ICI) concentrated on the production of training aircraft for the military. The original models were dubbed the "Cloudboy", which was the YPT-9 trainer. The Army Air Corps first tested a PT-13 in 1933, the Navy in 1934. This was soon known as the "Kaydet", although there were numerous modifications to follow which would change the indentification to PT-17, PT-18 or Navy 2S-2. Generally the identification depended on the type engine installed such as: the Continental, Lycoming, Jacobs etc. All were in the 220 to 225 hp class. Until 1944, when the wartime production was ceased, about 8,500 various "Kadets" were produced for the military, although if the spare parts are also included the total would be about 10,000.

Another popular primary training plane was the Ryan PT-22 (also known as the PT-21 or Navy NR-1) which was a low wing monoplane powered by a 165 hp Kinner engine. Both the Stearmans and Ryans saw service in the pre-war years with the Civilian Pilot Training (CPT) program as well as the privately operated (under contract with the military) primary training schools during the war. There has always been a lot of friendly (?) debates between the students or instructors of the various flying schools as to who flew the best equipment.

THE STEARMANS IN WWII

I don't know how typical my own experience was with the Stearman "Kaydet", but I will include it anyway. My "date of hire" by the Army Air Corps was 1/23/42 and I was among the first group to report to the Santa Ana (CA) Air Base. The base was still under construction and we were bivouaced in tents for the first few weeks. This was supposed to be a 'preflight' center (no flying), but the curriculum hadn't been established so we did a lot of marching and cleaning or assembling rifles. There was a shortage of uniforms except for the standard GI overhauls and heavy marching boots. Since we were not clad in proper uniforms we were confined to the base. After an extensive screening, including a twirl in the "Barney Chair" and a "Stanine" type test, we were finally assigned to a primary training school. My assignment was the 'Rankin Academy' (owned by the famous stunt pilot "Tex" Rankin) located near Tulare, CA. There were about 250 of us Aviation Cadets who traveled by bus to this primary school, plus another 5 Student Officers (already commissioned, but to receive flight training). The enlisted pilots (Aviation Students) reported to a separate school. The pay was $75 a month plus room, board and uniform. Since we were all, including all of the trainees throughout the country, due to receive our wings at the same time on 9/29/42, we were designated the Class of 42-I.

The bus driver alerted us that there would be a group of upper classmen ready to greet our arrival once inside the main gate of the Rankin school: there was a contingent of same with stern faces, dressed in full uniform, complete with white gloves. The first 'order of the day' was to "hit a brace" (an exaggerated position of "attention", with the chin drawn as far back as possible into one's chest. We then picked up our bags and 'double timed' to an open area to be greeted by Rankin and the military officers in charge. The assignments were made to quarters and instructor pilots as well as the division into four cadet companies with upper (by one month) classmen as leaders. They literally "ruled the roost' during our non-flying hours with orders to "hit a brace, mister!", double-time when outdoors, eating meals with square corners (when using a fork or spoon from plate to mouth) and other forms of hazing. Any infraction might bring a punishment of standing on your chair and singing the Air Corps song of "Off we go into the wild blue yonder etc., etc."

There were about 60 civilian instructors at the school, each started out with 5 students. They wore a military uniform with a special insignia (no rank, but we saluted them upon greeting them each day). My first flight was on 3/30/42, a 22 min demonstration by the instructor which included a few loops, spins and slow rolls. During certain of these maneuvers I was fighting the urge to "upchuck" as this could be the cause for an immediate "washout". Unfortunately it was not a good day for the instructor as he proceeded to 'groundloop' following the first landing. Between the feeling of nausea and the unexpected damage to a wing tip, I wasn't too certain that a flying career was for me.

After exactly 8 hours of dual instruction the instructor climb out of the forward cockpit and said the magic words...take 'er up alone, mister! After the first solo flight the cadet was allowed to wear his goggles (on the ground) on top of his flight helmet instead of below the chin, a status symbol. There was a 20 and 50 hour check or progress ride by a military pilot. After one month we were the upper classmen and "ruled the roost", complete with white gloves. Since the government was paying for all of this training we all completed the program in exactly 60 hours of dual or solo time...not one minute more or less as it would foul up the accounting. About 85 of our original group of 250 were "washed out" (termed 'Hugos') and assigned to other schools for navigators or bombardiers etc. These were my experiences with the Stearman, they were memorable!

THE POST-WAR and OTHER STEARMANS

Similar to the end of WWI, the end of WWII saw thousands of surplus military aircraft available at a very cheap price (in 1946 I purchased a North American AT-6, with low engine or airframe time, for $600). At the time, a Stearman was available for about $500. How many were sold isn't known, but about 2,000 are still flying today according to the Stearman Restorers Ass.,Inc. Many of these were used for crop dusting before other aircraft became available which were more efficient...otherwise they would have been junked for scrap long ago. The current basic price for a completely restored "Kadet" (including a 220hp Continental engine with zero time since overhaul) starts out at $65,000. A number of companies specialize in gathering wrecks or whatever is salvageable and resell the restored versions which are considered new. The antique planes, the older 'originals' produced by Lloyd Stearman, can cost a lot more depending on the condition etc.

Some of the past and present TWAers who have owned Stearmans include Orm Gove, who first learned to fly in 1925. Orm started with WAE on 5/1/29, as mechanic and copilot on the Fokkers. Following the merger with T&WA he was the senior copilot on the system but lacked the experience (flying time) to qualify for a transport pilot license. According to Stearman historian Ken Wilson, records show that Orm purchased NC4011 from WAE on 12/26/31 (and sold it on 3/19/32). Orm finally took his first flight as Captain on 9/28/34.

There probably have been numerous other TWAers who have owned, or still own, a Stearman. Among the current are Jack Parker, Ron Rex and D. Joseph Corr. Jack was a 'Hump' pilot in WWII and TWA pilot 1948 to 1984. His plane was produced for the Navy (N2S-B) in 1943 and after the war did some crop dusting from 1948 to 1949. It then sat as a pile of junk until 1970. It was then completely rebuilt and painted in the old USAAF colors (orange/yellow wings and tail feathers, a blue fuselage plus red and white stripes on the rudder). Jack purchased the plane for $18,000 and has since put over 350 hours flying "Old Blue" with pleasure flights, attending air shows (formation flights) etc. The plane is in the same condition so far as equipment and instruments, except for an electric starter and a generator (and Army colors), as its days with the Navy.

Ron Rex (hired 1966 and currently flying captain out of JFK) was half owner of a N2S-4 Stearman when, in 1984, he found out one of the original "D" model (a larger mail plane with increased horsepower) was for sale in Florida. The aircraft was built in 1929 and at one time (circa 1935) flew the mail for Wyoming Air service on WAE's former "Mountain Division". Later on it was used for crop dusting and was almost scrapped prior to WWII. It had numerous owners prior to a complete restoration and painted in WAE's old colors of deep red and silver. WAE had once owned a "4" model (NC774H), which had long ago been scrapped and deleted from FAA registration. The restored plane was able to obtain this same original NC number. Ron and his wife, Carol, have put a lot of time on their Stearman with local and cross country flying, air meets etc.

Former TWA Pres. D. Joseph Corr is co-owner (with John Tucker, Pres. of Midcoast Aviation) of N8828, the first and the prototype for the C3R series (dubbed the "Business Speedmail"). It was first flown on 8/15/29 and went through numerous modifications prior to final production. It also had numerous owners, including Hanford Tri-State Airlines in 1935, and was used as a trainer during the early years of WWII. Joe and John purchased the plane, which is restored to mint condition, in late 1987 and keep it at the Smartt Field near STL. Joe has about 500 flying hours and also owns a J-3 and a "Great Lakes". He is the second TWA president, since Jack Frye (1934-1947) to have a pilot license. The other was Ralph Damon, who learned to fly in the Army in 1918-1919.