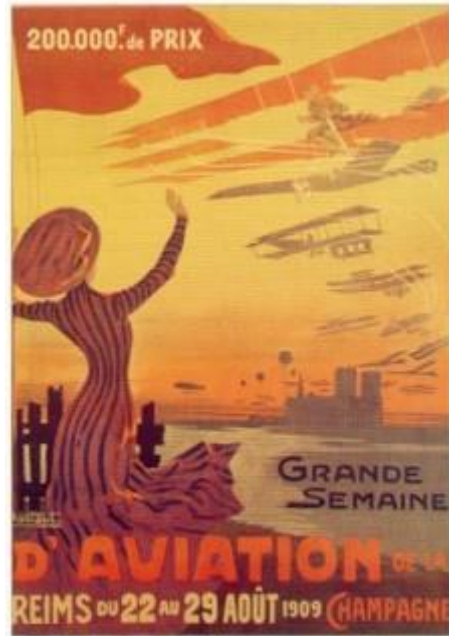


Reims Air races and the Gordon Bennett Trophy



Bleriot's cross-Channel flight excited Europe as nothing else had. The City of Reims and the French vintners of the Champagne region decided to sponsor a week of aviation exhibition and competition, putting up large purses in prize money, the most prestigious being the International Aviation Cup, known as the Gordon Bennett Trophy, after its sponsor, James Gordon Bennett, the flamboyant American publisher of the New York Herald and the Paris Herald. The meet attracted the cream of European society, from royalty and generals to ambassadors and the merely wealthy, to the Betheny Plain outside Reims from August 22 to 29, 1909. While there were to be many other such meets before and after World War 1, none would match Reims for grandeur and elegance or for sheer excitement.

The major European manufacturers, all French, entered various events. There were 'planes by Bleriot, Voisin, Antoinette, and Farman, and even several French-built Wrights. The Wrights themselves had passed on an invitation to race at Reims, which was awkward since the Gordon Bennett Trophy was crowned with a large replica of a Wright Flyer. The Aero Club of America, which had sponsored the Scientific American trophy won by Curtiss a year earlier, turned to Curtiss. Curtiss' June Bug was not as well developed a plane as the Wright machines (and possibly the Wrights were hoping to drive this point home if Curtiss failed at Reims) and while it was more maneuverable than the European planes, it was not nearly as fast.



1909 Voisin

Curtiss worked feverishly to produce a more powerful engine and stripped down his airplane to give it greater speed. The result was the Golden Flyer, which was a light version of his earlier planes and had a 50-horsepower water-cooled engine. With virtually no time to test the engine or the airplane, Curtiss packed and was off to Reims. When he arrived, he found that the accommodations for the aviators set up by their manufacturers were as extravagant as those of the spectators. Elaborate cooking facilities, decorated hangars, fully stocked machine shops, trunks brimming with clothing, spare parts and backup planes, and a retinue of mechanics and helpers, all floated on an ebullient sea of champagne provided by the sponsors. Curtiss' spartan approach was a simple tent, a single plane, and two scruffily dressed mechanics. So surprised were the French that he instantly became a favorite.

A brief but heavy rain on the first day turned the field into a muddy plain that was to affect take-offs throughout the meet. But there were so many aircraft, built by every major manufacturer and flown by every famous aviator, that the crowd was kept enthralled for the entire week. The early winners included Farman, flying one of his own planes equipped with the newly designed Gnome rotary engine, just beating Latham (flying an Antoinette) and Louis Paulhan (flying a Voisin) for the endurance championship; Latham, who won the altitude championship handily; and Eugene Lefebvre, flying a Wright Model A, who had the best qualifying round for the Gordon Bennett Trophy. Curtiss, aware that he had only one plane and precious few replacement parts, held back and worked on his aircraft in secret, trying to lighten it and squeeze out more power from the engine. He knew that his plane was not as fast on the straightaway as the light, single-winged Bleriot XII, which was outfitted with a new 80-horsepower engine, but he had won many a motorcycle race on the turns with inferior machines.

On the last day of the meet, the race was held for the Gordon Bennett Trophy. It came down to a contest among Lefebvre, Latham, Bleriot, George Cockburn (a Scott flying a Farman plane), and Curtiss, now flying a machine he called the Rheims Racer, which was in fact a further stripped-down model of the Golden Flyer. The course consisted of two six-mile (10km) circuits around tall towers, with each plane flying alone and timed. Cockburn was the only entrant who failed to finish, his aircraft crashing into a haystack after a single lap. The others thrilled the crowd with their sharp turns and with the drama of the race. During tests, Curtiss noticed that the field, drenched by the rains earlier in the week but now drying, had pockets of updrafts that tossed his lighter plane violently. He guessed (blindly, but correctly) that these updrafts would increase the efficiency of his propellers and could help carry him forward and keep him steady on the turns. He abruptly notified the judges that he was going to race (fearing the updrafts would wane as the day grew hotter) and took off. His flight was a bumpy one as he bobbed up and down trying to catch the updrafts while keeping his plane under control and taking the sharp turns. It was an extraordinary feat of piloting, because when he landed, he had been timed at fifteen minutes and 50.4 seconds. Lefebvre and Latham did not come close to that time, so French hopes rested with Bleriot, who decided to pilot his own plane, replacing Leon Delagrangé, the lighter man who had flown Bleriot's planes throughout the meet. Delagrangé had not flown well and had nearly had a mid-air collision with Paulhan the day before.



Curtiss Reims Racer

The powerful Bleriot XII streaked straight across the sky and completed the first lap ten seconds faster than Curtiss, who watched from the sidelines, anticipating a second-place finish. But Bleriot took the turn clumsily and swung wider than necessary. He cruised to a perfect landing and the crowd, judging the French aviator's speed only on the straightaway, was certain he had won. But his time was fifteen minutes and 56.2 seconds, 5.8 seconds longer than Curtiss. Bleriot was left to wonder if his added weight was responsible for those extra 5.8 seconds, while Curtiss was hailed as "Champion Aviator of the World" in headlines from Paris to Dayton.

The Second Gordon Bennett Race

When Glenn Curtiss won the first Gordon Bennett Race, it became the duty of the USA to stage the second, which was soon scheduled as the feature of the first major air race in America, October 22-30 at Belmont Park, Long Island, New York. By scheduling the meet so late in the year and on an island jutting into the Atlantic, cold and windy conditions were guaranteed.

The Gordon Bennett Race was for 20 laps around the 5-km./3.1-mi., pylon-marked course. Claude Grahame-White, of England, set the pace in his new, modified French 100 hp Bleriot XIbis monoplane, with a total time of 1:10:04.74 and a speed of 61.0 mph, which was a new world record for the distance. Next to fly was Alfred LeBlanc, of France, in a stock Bleriot XI. Each of his lap times was faster than Grahame-White's, and all were much more consistent. By the end of Lap 19, LeBlanc was leading by more than five minutes

Then, racing luck intervened when LeBlanc ran out of gas on the last lap. While making a dead-stick landing, he smashed into a telegraph pole, demolishing his airplane, but escaping with minor injuries. Almost an hour back in second place was American John Moissant, whose Bleriot XI averaged 33.7 mph.

The meet ended on a sour note as the rules for the race to the Statue of Liberty and back became embroiled in a dispute, and many of the pilots boycotted the awards banquet. But it had demonstrated the rapid advances in airplane performance to the world.

The Third Gordon Bennett Race

The race was held July at Eastchurch, England, and provided the closest finish in any race to date, along with the first race-modified airplane seen. Gustave Hamel's Bleriot had its wings severely clipped, with the major result being to reduce the effectiveness of his wing-warping roll control. He failed to complete his first pylon turn, slamming into the ground and demolishing his airplane, while escaping with no serious injuries.

The surprise winner was Charles Weymann, an American born in Haiti, whose clean 100 hp Nieuport completed the 25 laps of the 6-km./3.7-mi. course in 1:11:36.2 for an average of 78.11 mph. Close behind was last year's hard-luck pilot, Alfred LeBlanc, in a Bleriot, who was clocked in 1:13:40.2 for 75.91 mph. Third was Edward Nieuport in one of his own airplanes in 1:14:37.2 and 74.98 mph.

The formula for long-term success in air racing was taking shape: more horsepower and less aerodynamic drag.

The Fourth Gordon Bennett Race

The second Gordon Bennett Race to be held in America was on September 9 at Clearing, near what is now Chicago's Midway Airport. The race was for 30 laps of the 4.14-mile course. A small crowd was on hand, due in part to the poor location, and to advance publicity which predicted a runaway win by the French.

The great hope of the American Team was the "Defender", which looked like an improved Bleriot. When it wasn't ready in time, only Paul Peck and his Columbia biplane remained, and they were stuck at the starting line with a flat tire.

The French completed the expected clean sweep. First was Jules Vedrines, in a slick Deperdussin monoplane, in 1:01:51 for a record speed of 105.5 mph. Maurice Prevost was second in an identical airplane, in 1:15:25 for 103.8 mph. Andre Frey, flying a Hanriot monoplane, dropped out late in the race while averaging 94 mph.

Speed flying was fast becoming the preserve of the French, who held most of the important world records and trophies.

The Gordon Bennett Race



Gordon Bennett Trophy

The race was held on September 29 at Reims, site of the historic first race in 1909. Eight of the nine entries flew monoplanes, and only Henri Crombez, a Belgian, interrupted what would have been an

all-French field after Great Britain, Germany and the USA had withdrawn. The race consisted of 20 laps of the 10-km./6.21-mi.) course for a total of 124 ¼ miles.

The 14-cylinder, 160 hp Gnome-powered Deperdussins dominated a very close race, with Maurice Prevost winning at a record 124.78 mph to become the first to fly 200 km. in less than one hour. Barely a minute behind him at the finish was Emile Vedrines, the brother of Jules, in a Ponnier at 122.53 mph. Just as close behind him was Eugene Gilbert in a second Deperdussin at 118.51 mph. Bringing up the rear was Crombez in a third Deperdussin, at 106.73 mph. The superiority of this type of wonderfully streamlined monoplane was proven beyond question.

The Sixth James Gordon Bennett Race

It was held September 28, for three round trips of a 62-mile straight course between Etampes and Gidy, France. There were starters from the USA, Great Britain and France. Most interesting was the Dayton-Wright RB-1, a private, custom-built American racer featuring a flush canopy, fully retractable landing gear and a wing with both leading-edge and trailing-edge flaps.

Four of the six pilots dropped out with mechanical trouble, though George Kirsch had a first lap at 178 mph. The winner, at an average of 168.732 mph, was Sadi Lecoq, in a Nieuport 29V. In second was Bernard de Romanet in a SPAD S.20bis; his average speed of 112.851 mph would have been much higher if not for a stop. Howard Reinhart's race in the RB-1 ended on lap 1 when his rudder cable broke.

When the French won the trophy for the third time in a row, they retired it and the Gordon Bennett Race series ended.

the Schneider Trophy



The Schneider prize for seaplanes was first announced by Jaques Schneider, the French Under-Secretary for Air, in 1911, with a prize of the then huge amount of 1,000 pounds. It was meant to encourage progress in civil aviation but became a contest primarily about speed.

In the twenties it was a spur to aircraft development and in the end was seen as a test of nation's strengths in aviation technology. It was largely due to the Schneider trophy that aircraft speeds rose from 150 mph at the end of the First World War, to over 400 mph in 1931. The race gave birth to the Spitfire and the Italian Macchi fighters and established the low drag liquid cooled engine as the fast fighter designers principal choice for power. A fashion that only died with the success of the German FW 190 and the American Corsair and Thunderbolt.

Britain won the trophy in 1914. After the war the first contest, in 1919, was declared void by the judges. In 1920 and 1921 the contest was won by the Italians. The rules said that any nation that won the trophy three years in succession could keep it. So it was a close run thing when the Britain's Supermarine SeaLion snatched victory by tactical flying in the 1922 race with a speed of 145mph.

The next year saw a technical revolution in the shape of the American Curtiss floatplanes with their in-line liquid cooled engines. The Curtiss won with a speed of 177mph. Mr C.R. Fairey of the Fairey Aircraft Company was so impressed with the new engines, he purchased some and fitted them to a new light bomber, the Fairey Fox. The Fox was so fast that no RAF fighter could catch it. An example of how the race was prompting aircraft development.



The 1924 contest was declared void since no other nation turned up to challenge the Americans. In 1925 R.J. Mitchell's Supermarine S4 was entered but crashed before the race, the pilot was saved. The Americans won in an aircraft piloted by James Doolittle, who later went on to win fame with his audacious raid on Tokyo during WW2. The winning speed was 232mph.

The Italians came back forcefully in 1926 with their new sleek Macchi M39 winning at 246mph. The British were not ready to compete that year. In 1927 Mitchell's new aircraft, the S5, was ready, in fact the British aircraft industry was there in strength with entries from the Gloster and Shorts companies as well. The effort was only made possible by the backing of the British Government, which also allowed the R.A.F. to participate in the form of serving pilots in the "high speed flight". Two S5s took first and second place and the winning speed was 281 mph.



After that all nations agreed that a two year gap was needed between races. Aircraft and engines were getting more complex and two years was needed to introduce innovations. So the next contest

was held in 1929. However there was a crash of an S5 in which Flt Lt Kinhead of the High Speed Flight was Killed in 1928.

In 1929 Supermarine had the new S6 ready. This was powered by a new engine from Rolls-Royce called the "R" that was capable of producing the then staggering power of 1,900 horsepower. The Italians were determined to win the trophy that year, they had an engine of similar power but it weighed a lot more than the Rolls-Royce creation. The Supermarine won with a speed of 328 mph. However, not long afterwards, the British Government withdrew financial support and the British prospect for 1931 looked bleak.



Schneider Trophy winner 1929, F/O HR Waghorn, Supermarine S6

The extreme patriot, Lady Houston stepped in however and gave 100,000 pounds towards the costs. The R engine was boosted to 2,000 horsepower. Come the day of the race the Supermarine S6B was the only entry. It clocked up 340 mph to win, and one run was clocked at 379 mph, a new World speed record. It did not last for long however since the S6B broke it again two weeks later, raising it to a staggering 407 mph.

The Schneider trophy was therefore won outright by Britain. In the process many steps forward in aviation had taken place.

The great air races of the 'Golden Age'



Bendix Trophy

In the United States, racing began with the Los Angeles meet of January 1910, in which Glenn Curtiss and Louis Paulhan were the big winners. Paulhan was again victorious in the grueling London-to-Manchester race in which he beat a heroic effort by the British aviator Claude Grahame-White. It seemed, in fact, that Grahame-White made more capital out of losing than Paulhan did winning. Although he was a relative newcomer, Grahame-White won the Gordon-Bennett trophy at Belmont Park, Long Island, in October 1910, making him an international celebrity.

After Reims, a series of races were held across Europe—Paris to Rome; and circuits in France-Belgium and in England—pitting, for the most part, Andre Beaumont against Roland Garros. Here, too, Garros seemed to make more out of losing each time than Beaumont did winning. Garros finally won the races held in Monaco in August 1914, a year after the first Schneider Cup event, and then went on to be first to cross the Mediterranean.



Glenn Curtiss continued designing and building planes in the 1920s for racing and exploring. The Oriole, among the most popular, was a versatile and inexpensive plane that could fly a good race one day, deliver mail the next, and fly the Arctic the day after...

The war curtailed racing in Europe, and in the United States the vigorous litigation by the Wrights against anyone they thought was infringing on their patents put a damper on racing and on flying in general. After World War I, the sons of newspaper tycoon Joseph Pulitzer established the Pulitzer Trophy races in 1920. The huge turnout at Mitchell Field, New York, proved that interest was still there. A crowded field—thirty-seven planes staggered just two minutes apart, which meant nearly all of them were on the 116-mile (186.5km) course at the same time during most of the race—circled the course three times, with the winner, Corliss C. Mosley, in a Verville-Packard biplane.

The first man to congratulate Mosley was Billy Mitchell, now a hero of the war and at this point still highly respected in military aviation circles. Mitchell sold the armed services on the value of the Pulitzer (and other races) as a means of improving aircraft design and flying technique. During much of the twenties, the army and navy participated extensively in racing, and they often flew Curtiss racing planes, which became a profitable portion of Curtiss' business. The next Pulitzer races were held in 1921 in Omaha, and the event was part of a larger cavalcade of aviation races and displays called the National Air Congress. These meets developed into annual events that eventually came to be called the National Air Races.

Many design innovations had their first testing at the Nationals, and some of the better aircraft went on to race in the Schneider or in other races. The Curtiss R3C-2 racer in which Jimmy Doolittle flew to victory at the Schneider races in 1925 had been flown (minus the pontoons) at the 1924 Nationals by Cyrus Bettis, who walked off with the Pulitzer that year. Along with the planes, many a flier's reputation was made at these events and many pilots became household names of the period. Bert Acosta, a Curtiss test pilot, for winning the 1921 Pulitzer in record form from a starting line instead of racing against the times of their competitors flying separately. The race gave rise to the sport-within-a-sport of "pylon polishing" (seeing who could fly closest to the pylon on the turn without hitting it),

which the crowd found nearly as enthralling as the race. Being a pylon judge was definitely not a job for the squeamish.

In 1929 Henderson also convinced manufacturer Charles U. Thompson to sponsor a new Trophy event a fifty-mile (80.5km) race open to all aircraft. The Thompson Trophy became the premier air-racing event of the 1930s, bringing a whole new cast of intriguing dark horses into the spotlight, all trying to beat the army and navy planes. The 1929 Thompson race was won by Douglas Davis, flying a Travel Air "Mystery" plane. (The mystery turned out to be that the plane had a Whirlwind engine, thought to be too bulky for racing.) The big news coming out of the race was that for the first time a civilian plane had beaten a government plane in a race. To make matters worse, the third-place finisher was also a civilian: Roscoe Turner flying a Lockheed Vega.



Wiley Post is seen here with Winnie Mae, the Lockheed Vega aircraft in which he made his legendary round-the-world flights.

The 1930 Thompson Trophy introduced the aviation world to Benjamin O. "Benny" Howard, an airmail flier who built his own aircraft, a racer marked DGA-3 (which Howard said stood for "Damn Good Airplane") and which Howard called Pete. Howard and Pete would become fixtures at the Nationals throughout the 1930s, though Howard never won a trophy. The year 1930 also saw the debut of an unknown barnstormer with a patch over one eye, Wiley Post, who flew a Lockheed Vega called Winnie Mae. The field that year was rich in planes and pilots that would ultimately become legendary in aviation history:



The Thompson Trophy award plaque. This one was awarded to first-prize winner Cook Cleland in 1947.

Speed Holman flying Emil “Matty” Laird’s Solution (which had not been completed until hours before the start of the race, and had been test-flown for all of ten minutes), Frank Hawks in one of two Travelair Air “Mystery” planes built by Walter Beech, and several others. The favourite plane that year was a Navy Curtiss Sea Hawk, with a 700- horsepower Curtiss Conqueror engine. However the navy plane crashed and Holman won the race. (In 1931, Holman was killed in a crash while stunting in Omaha.)



The Gee Bee R2 in which Jimmy Doolittle won the Thompson Trophy in 1932, with a record speed of 296 miles per hour (474kph). Doolittle then quit racing, claiming the Gee Bee was too dangerous to fly. (Later analysis showed that the odd weight distribution made it virtually impossible to control the plane once it went into any sort of roll.)

The 1931 Thompson competition saw the unveiling of one of the most unusual aircraft ever to fly: the Gee Bee. The name stood for the Granville Brothers, a small airplane manufacturer in Springfield, Massachusetts. The designer, Bob Hall, had no experience designing racing planes, and the final design looked like a bad drafting mistake—as if someone had forgotten to draw in the back half of the

aircraft. Amazingly, the Gee Bee flown by Lowell Bayles beat Jimmy Doolittle flying a Laird Super-Solution and took the Thompson home. Doolittle was impressed, and the next year he flew a Gee Bee and won the Thompson. The experience must have been a harrowing one, though, because not only did Doolittle never again fly a Gee Bee, but he also became a staunch opponent of air racing and testified before Congress to have it banned.

In truth, the Gee Bee was configured as it was because it housed an enormous Pratt & Whitney Wasp engine. The plane was notoriously unstable and structurally fickle; every Gee Bee ever built crashed sooner or later.



the Thompson Trophy in 1932

Bayles, the 1931 Thompson winner, crashed after the competition trying to set a land speed record in the aircraft (which is how Doolittle got to fly the plane in the first place). And in 1934, Zantford “Granny” Granville died when a Gee Bee he was flying to a customer crashed. That’s when Edward Granville discontinued the line. In 1931, a fourth major race, the Bendix Trophy, joined the Schneider, Pulitzer, and Thompson as the prestige races of the period.



Plaster model of the Bendix Air Race Trophy.

The Bendix was no more than the cross-country race to the Nationals that was held informally every year. The big winners of the Bendix included Benny Howard, who won it and the Thompson in 1935,

his banner year; Jimmy Doolittle; and Roscoe Turner, ever the showman, winning it flying with his pet lion cub.



Roscoe Turner accepting his third Thompson Trophy in 1939. Though he became a showman and a flamboyant businessman, the Thompson victories attested to his great skill as an aviator

The Bendix was taken very seriously because it was a race that related directly to the desire to use aviation to traverse the vast distances of the United States. It encouraged cross-country speed flights by non-contestants that extended the capabilities of long-distance flight. Frank Hawks and the Lindberghs established cross-country records in the early 1930s, the latter proving in their Lockheed Sirius that airplanes could fly best high over storms in the rarefied atmosphere above fifteen thousand feet (4,57kn). All these records were to fall, however, when a brash young movie producer named Howard Hughes, flying an open-cockpit Northrop Gamma mail plane (which he had personally enhanced by installing a powerful Wasp engine), established records on an almost yearly basis in the early to mid-1930s, culminating in his January 1937 flight from Los Angeles to Newark in seven hours, twenty-eight minutes, and twenty-five seconds. **Pulitzer Trophy Air Races**



The forerunner of the National Air Races at Cleveland was the Pulitzer Trophy Race established by newspaper publisher Ralph Pulitzer. The first race was held at Mitchell Field, Garden City, Long Island, New York, for four laps of a 29-mile course. Thirty-eight pilots entered and took off individually. Most pilots flew American-built Army deH.4 World War I single-engined bombers, along

with Navy Vought VE-7's and SE5A's. Only a few pilots were civilians. At the time of the first race, America's planes were getting a top speed of 180 mph while the French, who had become heavily involved with military aviation after World War I, built planes reaching speeds close to 200 mph. However, the Pulitzer series of races brought the winning average speed up from 156 mph in 1920 to 248 mph in 1925.

These Pulitzer races produced several other beneficial technological developments, but also perpetuated the mistaken belief that the biplane configuration had more potential for high speed than the monoplane. This belief may have put America as much as 5 years behind Europe in the development of the monoplane.

The Second Pulitzer Trophy Race

Omaha, Nebraska, was the site for this unusually late November 3-5 race, with a much smaller field that lacked the stock de Havilland deH.4s and other standard military types. The race would be for 5 laps of the 30.7-mile course



Verville-Sperry R-3

The Third Pulitzer Trophy Race

The most impressive line-up in the history of American military air racing greeted the crowd at Selfridge Field, Mt. Clemens, Michigan, on October 14. Among the 15 starters were a dozen military racers: one Verville R-1, three Verville-Sperry R-3's, two Loening R-4's, two Thomas-Morse R-5's, two Curtiss R-6's and two Curtiss CR-2's.

The Fourth Pulitzer Trophy Race

This one was run out of Lambert Field, St. Louis, Missouri, on October 6. It was for 4 laps of a 50-km./31.1-mile course. All seven starting pilots flew military racers, and all six who finished broke the old Pulitzer Race record.

The Fifth Pulitzer Trophy Race

The air races at Wilbur Wright Field, outside Dayton, Ohio, were highlighted by the Pulitzer. Run for 4 laps of a 50-km./31-mile course on October 4, it drew a much reduced field from the previous year. Three of the four starters flew military racers: two Curtiss R-6/s and one Verville-Sperry R-3, along with an Army Curtiss PW-8A.

The Sixth Pulitzer Trophy Race

As part of what later became known as the National Air Races (October 8-13 at Mitchell Field, Long Island, New York), the sixth and last Pulitzer Race was conducted on October 12. It was flown for 4 laps of a 50-km./31-mile course.

Pulitzer results

1920 - November 27, Mitchel Field, Long Island NY.

The winner was Capt. Corliss Moseley, flying a Verville-Packard VCP-R racer, a cleaned-up version of the Army's VCP-1 pursuit, at 156.54 mph. In second was Harold Hartney in a standard Thomas-Morse MB-3 pursuit at 148.19 mph. Over half the 24 finishers flew deH.4's.

1921 - November 5, Omaha NB.

The winner, by almost two minutes, was Bert Acosta, flying the first of what would become an historic line of Curtiss military racers, the CR-1. He averaged 176.75 mph. Clarence Coombs was second at 170.34 mph in the private Cox Cactus Kitten. In third was Army Capt. John Macready at 160.72 mph in a Thomas Morse MB-6.

1922 - October 14, Detroit MI.

The race, for five laps of a 50-km./31-mile course, was won by 1st Lt. Russell Maughan, in an R-6, who averaged 205.856 mph and broke every closed-course record up to 200 km. In second was 1st Lt. Lester Maitland, in an identical airplane, at 198.850 mph, while in third was Lt. Harold Brow in a CR-2 at 193.695 mph, and in fourth was Lt. Jg Al Williams, in a CR-2 at 187.996 mph. This race established Curtiss' reputation as a designer/builder of advanced airplanes.

1923 - October 6, St Louis MO.

The winner was Al Williams, at 243.673 mph in a Curtiss R2C-1, followed by Harold Brow in another R2C-2 at 241.779 mph. The race for third place was the most exciting, Sandy Sanderson edging Steven Calloway—both in Wright F2W-1's—by ½ second: 230.067 mph to 230.002 mph.

1924 - Dayton OH.

The winner, in the R-3, was Harry Mills, covering the course in 34:25.93 to average 216.55 mph. Wendell Brookley was second in an R-6, at 214.41 mph, only 21 seconds behind.

1925 - Mitchel Field, Long Island NY.

The winner of the 4 laps, at a Pulitzer record 248.975 mph, was Cyrus Bettis in a Curtiss R3C-1. Not far behind him was Al Williams, in an identical racer, at 241.695 mph.



Curtiss R6 - Won the 1922 Pulitzer with an average speed of 205.8 mph.



Laird Super Solution - Piloted by Jimmy Doolittle, won the 1932 Bendix Trophy.

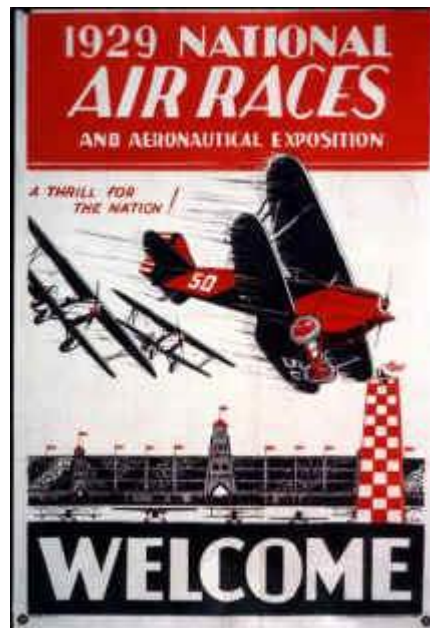


Verville-Packard - Won the 1920 Pulitzer with an average speed of 156.5.

1929 National Air Races

By Bill Meixner

Clifford Henderson brought the faltering National Air Races to Los Angeles Mines Field in September of 1928. He also added an Aeronautical Exposition to showcase the latest in aircraft and related equipment. The 1928 National Air Race was a major improvement over previous exhibitions held at non spectator-friendly military air stations. 1929 would be a quantum leap in quality and a much-needed public exposure of aviation in general.



In 1929, Cleveland hosted the National Air Races and Aeronautical Exposition. The Cleveland Airport was the first municipally owned in the country. It was large enough to host the races on the west end of the airfield without interrupting normal commercial traffic at the east end. A state-of-the-art passenger terminal building had just been opened, complete with beautiful landscaping. More than a dozen new hangars and support buildings were either complete or under construction.



The Aeronautical Exposition was held in the new \$10 million Public Hall in downtown Cleveland. No less than 250 exhibits displayed \$3 million in aircraft, motors and accessories. Musical extravaganzas were offered each day and evening.



Boeing Aircraft Company sent it's newest tri-motor Transport, the Model 80 prior to it's entrance into airline service. Pictured above on display outside of Cleveland City Hall

On the day prior to the opening of the races, a very large parade was held on the main street of downtown Cleveland, with no less than 100 floats, most of them covered with fresh flowers. Overhead, an armada of military and civilian aircraft accompanied the parade.



Cleveland City Manager William Hopkins with Amelia Earhart, Ed Thompson, brother of Charles, and Mrs. Ed Thompson.

Many dignitaries and movie stars were in attendance, national hero Charles Lindbergh and Commander Hugo Eckner of the Graf Zeppelin, to name just two. Pilot Jimmy Haizlip said "the whole of aviation was there and you could have put them all in a dance hall and have half of it left over". The daily schedule included other aviation attractions such as parachute jumping, military demonstrations, lighter than-air craft, air derbies and aerobatics demonstrations. Coupled with the Aeronautical Exposition and concerts, this was a major entertainment spectacle and a much needed public exposure of military and civilian aviation.



Committee members and airport Officials gather in front of Richland Oil Company's luxury appointed Fokker F -10



Start of the Women's Air derby: Chairman Floyd J. Logan, Louis W. Greve, President of The Cleveland National Air Races holding the starting gun, with Cliff Henderson in contact with Clover Field.



Opening of races at Cleveland: Louise Thaden, flying a borrowed Travel Air, won the Women's Air Derby, sponsored by the National Exchange Club.



The forty plus trophies on display at the Expo in Public Hall

While the military dominated the previous National Air Races, this year would be different. President Walter Beech of the Travel Air Manufacturing Co. in Wichita had secretly developed a low-wing monoplane with great speed potential to enter in the free-for-all race. This aircraft was tested and flown to Cleveland, where Beech had arranged for a private hangar for his entrants. As soon as the plane landed, it was rolled into the hangar and the doors closed. The press called it the "Mystery Ship".

On Sept. 2nd, Doug Davis, an airline pilot from Atlanta, Georgia, flying the Travel Air "Mystery Ship", won event no. 26, the 50-mile free-for-all speed contest. During the race, Davis cut inside one of the pylons and had to re-circle it but still managed to beat both the Army's and Navy's fastest pursuit planes. Charles Thompson, president of Thompson Products Company, sponsor of the event personally, awarded the large cup to Doug Davis. Second place went to Lt. Breen in a Army P-3A. Third place went to Roscoe Turner in a Lockheed Vega.

Event 26 Winners (Thompson Cup)



The Travel Air "Mystery Ship" License number R614K Race number 31 Pilot Doug Davis



USAAC P-3A XP-524 Race number 80



Lockheed Vega NC 3354 Race number 192 Pilot Roscoe Turner

1929 Thompson Cup Race Event No.26 September 2 Cleveland Ohio (5 laps 10 mile course 50 miles Total purse \$1500)

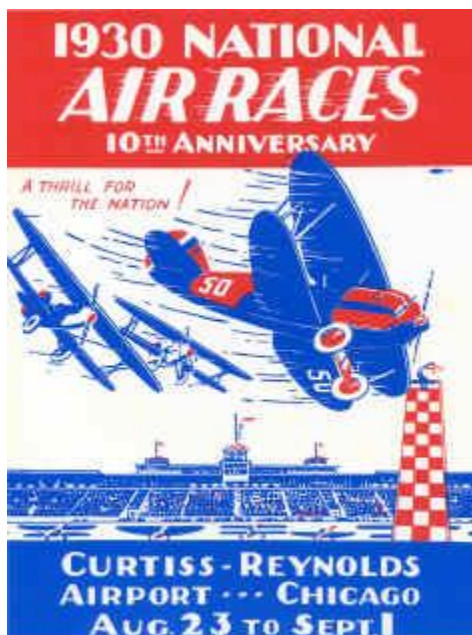
Place	Pilot	Aircraft	No.	License No.	Speed
1	Doug Davis	Travel Air-R	31	R 614 K	194.90
2	Lt. R.G.Breen	Curtiss P3A	80	XP 524	186.84
3	Roscoe Turner	LockheedVega	192	NR 7954	163.44
4	Comm. J.J. Clark	Curtiss F6C-6	210	A 7144	153.38
5	H.S. Myhres	Simplex	71	NR 43M	152.15

6	McConaughey	Travel Air	30	NR 612K	145.20
7	C.E. Clark	Travel Air	32	NR 613K	N A
8	C.D. Bowyer	Cessna	53	NC 6450	DNF

1930 National Air Races

By Bill Meixner

The 1930 National Air Races were moved to Chicago, IL. The site would be the the Curtiss-Reynolds Airport, race dates August 23rd to September 1st. The first Thompson Trophy Race would take place in Chicago.



1930 Poster



Aerial view of the Air Race site at Curtiss Field



Granville Bros. side by-side two seat biplane on display at the Expo



1930 Race official describing the current event to the crowd.

After the embarrassing defeat of the Nation's finest pursuit ships in the 1929 races at Cleveland, the military was out for revenge. This time the Navy would attempt to put the civilian aircraft manufacturers in their place. This year was sure to be different!

The Navy had a plan; take the Curtiss Hawk Seaplane F6C-3 that won the 11th and final Curtiss Marine Trophy Race at Anacosta Navel Air Station on May 31st. and have Curtiss modify it to Navy Specifications.



The lower wing was removed and part of the upper wing was covered with coolant radiators. Seaplane floats were replaced with a set of streamlined landing gears with special wheel pants. The stock Curtiss D-12 engine was replaced with a 700hp supercharged Curtiss Conqueror with a new cowling.



The modified Hawk had a top speed potential of 250mph at its best altitude and a projected average speed of 220mph in the race.



Jimmy Haizlap with the Shell Travel Air entry

The Travel Air R that won the Thompson Cup was now owned by Curtiss-Wright and was on tour for the Company. Several more Travel Air R's were produced; one was purchased by the Shell Oil Co., the other by Texaco.



Lee Schoenhair, chief pilot of the B.F. Goodrich Company and second place winner of the 1929 cross-country race called "Matty" Laird president of the E.M. Laird Aircraft Company of Chicago and asked him to build a racer for the 1st Thompson Trophy Race. There was a little over three weeks time to complete the plane, but Laird agreed it could be done.



"Matty" Laird, "Speed" Holman and Lee Schoenhair standing (L-R) in front of the just completed racer. A last minute decision put "Speed" Holman in the pilot' seat due to his Laird racing experience.



1930 Logo

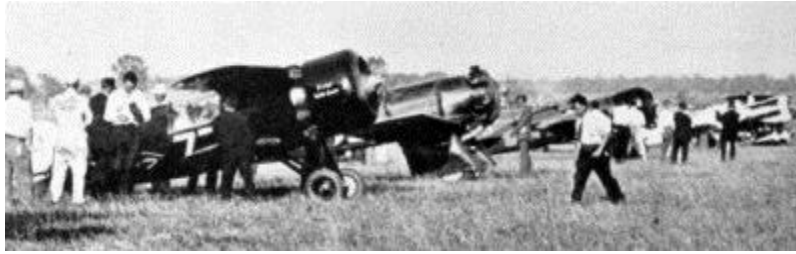


Capt. Mcready crashed during one of the smaller cubic inch races. Miraculously, he escaped with only a broken nose.



U.S. Marine Corps fighters on display





Starting line-up for the Thompson Trophy Race



Wiley Post's Lockheed Vega would later become the Winnie Mae

The men's non-stop cross country derby (Los Angeles to Chicago) attracted no less than four Lockheed Vega's and one air express.

- 1st place Wiley Post
- 2nd place Art Goebel
- 3rd place Lee Schoenhair
- 4th place William Brock
- 5th place Roscoe Turner (Air Express)

The Women's Class A Pacific Derby from Long Beach CA to Chicago IL

- 1st place Gladys O'Donnell in a Waco
- 2nd place Mildred Morgan in a Travel Air
- 3rd place Jean LaRene in a American Eagle

The Women's class B Dixie Race from Washington DC to Chicago IL

- 1st place Phoebe Omlie in a Monocoupe
- 2nd place Marty Bowman in a Fleet
- 3rd place Laura Ingalls in a DH Moth

With 44 scheduled events, the first Thompson Trophy Race would be the big attraction of the meet. As expected the revamped Curtiss Hawk flown by Capt. Arthur Page of the United States Marine Corps. took an early lead and after several laps, passed or lapped the entire field. The race now concentrated on second place with Speed Holman and Jim Haizlip virtually side by side. As Page approached home pylon for lap seven, he suddenly pulled up and out of the race and than slid off on the left wing and nosed down and into the ground and crashed. Captain Page died of his injuries later that day. "Speed" Holman won by a very narrow margin over Jim Haizlip. The Laird would be the only biplane to win the Thompson Trophy Race.



The Thompson Trophy Race entries

Place	Pilot	Aircraft No.	License No.	Speed
1 st	Speed Holman	77	NR10538	201.91
2nd	Jim Haizlip	26	NR482N	199.8
3rd	Ben Howard	37	NR2Y	162.8
4th	Paul Adams	81	449W	142.64
DNF	Frank Hawks	13	NR1313	Out 3rd lap
DNF	Errett Williams	92	NR536V	Out 8th lap
DNF	Capt. Page	27	A-7147	Crashed

The Laird "Solution" changed hands a number of times and was modified to attain greater speed. It never again became a challenger and was finally acquired by the New England Air Museum in Windsor Locks (Bradley Field) Connecticut and was restored to it's original form where It is currently on display. In 1930 the Cleveland Municipal Airport would be host to the Gordon Bennett International Balloon Race and Aerial Carnival, August 31st and September 1st. The Army sent a Pursuit, Bomber and an Observation Squadron. The Navy and Marine squadrons would also participate. Well-known fliers, Frank Hawks and "Jimmie" Doolittle were scheduled to pay a visit.



The City of Cleveland balloon about to be launched

1931 National Air Races

By Bill Meixner

The 1931 National Air Races returned to Cleveland Municipal Airport and arrangements were made to hold the event here for at least the next five years. This arrangement prompted the building of new permanent wood grandstands and race administration building. Special buildings for Army, Navy and Marine Corps units were also added. Dates for this year were August 29th through September 7th and Cleveland fans were eager to see the races return. The racecourse was changed to eliminate the racers over flying the grandstands, for safety reasons. The airfield is large enough to permit both commercial flights and air racing.



1931 Poster

The schedule called for 38 events, with prize money totalling \$100,000. New this year, Shell Trophies Speed Dash, Entries to qualify at a speed of no less than 200 miles per hour over a 3-Kilometer Straight-Away course in front of the grandstands. These speed dash qualifiers would also qualify the men for the Thompson Trophy race and the women for the Aerol Trophy Race. The major event and attraction was the Thompson Trophy Race, held here in Cleveland for the first time.



1931 Logo

Cliff Henderson, managing director of the races convinced businessman Vincent Bendix to sponsor a new event. The Bendix Trophy Race-----Transcontinental Speed Dash open to men and women. Starting at United Airport, Burbank California to Cleveland Cleveland Municipal Airport, a distance of 2043 miles. Non-stop or refuel, any type aircraft, must arrive Cleveland Airport before 6pm EST same day. With a purse of \$15,000 the Bendix was scheduled for opening day of the National Air Races.



Vincent Bendix and Trophy

The original intent of the Thompson Trophy Race was for it to be an International event. None of the European pilots of Countries invited entered the prestigious race. Al Williams trip to Europe was successful in bringing several of Europe's best . Capt. Boleslaw Orłowski of Poland, Major Ernst Udet of Germany, Commander Mario de Bernardi of Italy, Captain Atcherley of England and Captain Alois Kubita of Chechoslovakia to name a few. While none of them flew in the races all demonstrated their flying skills and their aircraft.

Perhaps the favourite of the air race was Earnst Udet who performed difficult aerobatics with his low-powered "Flamingo" thrilled the crowd by picking up a handkerchief off the grass with his wing tip. Major Ernst Udet a German ace in WW I shot down an an American pilot by the name of Wanamaker, Udet landed next to the crash and offered him a cigarette while waiting for the German Medics to arrive. At the same time Udet cut the tail fabric containing the Pilots number as a prize of war. When Udet arrived at the races he arranged for Wanamaker, now the Mayor of Akron, Ohio to be in the stands. Udet had the fabric of Wanamakers plane framed and presented it to him. It is now on display at the Air Force Museum in Dayton, Ohio.



Major Ernst Udet



Udet's "Flamingo"



American and Foreign pilots relax together in front of the stands

The Bendix Trophy Race originated at United Airport, Burbank, California with the finish line at the Cleveland, Ohio grandstands. Only four entries were launched, two of them would later become United States Army Air Corps Generals. (Doolittle & Eaker)



Laird "Super Solution" - Pilot Jimmy Doolittle - Bendix Trophy winner

A small airplane Company by the name of Granville Bros. Aircraft Co. of Springfield Massachusetts entered a radical new design based on the shape of a water drop , the work of engineer Robert Hall. Given the nickname, "Gee Bee", at the controls was airline pilot Lowell Bayles, from Atlanta Georgia.



Geebee Model "Z"

Shell 3-Kilometer Speed Dash

Men's Trophy	Women's Trophy
Lowell Bayles	Maude Tait

Bendix Trophy Race

Place	Pilot	Aircraft	Speed
1	Jimmy Doolittle	Laird Super Solution	223.038
2	Harold Johnson	Lockheed Orion	198.816
3	Beeler Blevins	Lockheed Orion	188.992
4	Ira Eaker	Lockheed Altair	186.070

Thompson Trophy Race

Place	Pilot	Race No	Aircraft	Speed
1	Lowell Bayles	4	Geebee "Z"	236.239
2	James Welell	44	Wedell Williams	227.992

3	Dale Jackson	77	Laird Solution	211.183
4	Robert Hall	54	Geebee "Y"	201.250
5	Ira Eaker	NA	Lokheed Altair	196.832
6	Benny Howard	37	Howard "Pete"	163.573
7	William Ong	NA	Laird Speedwing	153.049

1932 National Air Races

By Bill Meixner

The 1932 National Air Races were again held in Cleveland Ohio August 27 to September 5. Many new raceplanes were entered this year to dramatically raise the interest level and attract more visitors. The Bendix race from Burbank CA to Cleveland would feature four new aircraft with identical engines and well qualified pilots. There would also be six other cross-country races on the on the program. Twenty one closed-course races including the Thompson Trophy Race for men and the Aerol Trophy Race for Women. Two speed dashes were again included on the program.



1932 Official ribbon



1932 Logo

The line-up for the Bendix would feature three Wedell-Williams's model 44's and a Granville Brother's Gee-Bee Super-Sportster model R-2.



#92 Jimmy Haislip



#44 Jimmy Wedell



#121 Roscoe Turner



#7 Lee Gehlback



Hazlip wins Bendix in 8:19 hours Jimmy being congratulated by Amelia Earhart

Bendix Trophy Race

Place	Pilot	Race No	Aircraft	Time
1	Jimmy Haizlip	92	Wedell Williams	8.19
2	Jimmy Wedell	44	Wedell Williams	8.47
3	Roscoe Turner	121	Wedell Williams	9.02
4	Lee Gehlbach	7	Gee-Bee R-2	9.41

A host of new aircraft were introduced this year in the closed-course events. Benny Howard was back with two almost identical, Menasco powered racers.



Howard "Ike"



Benny Howard & "Mike"

Bob Hall chief engineer and designer for the Granville brothers, who designed the Gee Bee model "Z", winner of the 1931 Thompson Trophy designed the "Bulldog" for the Thompson and the "Cicada" for the Bendix. Both planes were plagued with engine problems. Bob flew the "Bulldog" to disappointing 6th in the Thompson. The "Cicada" did not start the Bendix. Sometime after the Thompson the engine and prop were removed and returned to the manufacturer's. The "Cicada" crashed and burned.

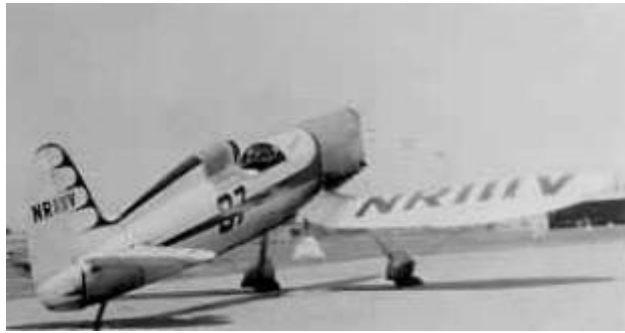


"Bulldog"



"Cicada"

Other new racers to appear this year



Gordon Israel's "Redhead"



Keith Rider "San Francisco"



Program



Parachute jumping demonstrations and pin-point landing contests were big crowd pleasers. While the idea was to land in a prescribed circle in front of the grandstands, it was not uncommon for some to land in the grandstands or in the parking lot.

Shell 3-Kilometer Speed Dash

Men's Trophy	Women's Trophy
Jimmy Doolittle	Mae Haizlip



Jimmy Doolittle with Gee-Bee R-1



Mae Haizlip with W-W #92



Thompson Trophy Race

Place	Pilot	Race No	Aircraft	Av.Speed
1	Jimmy Doolittle	11	Geebee "R-1"	252.6
2	James Welell	44	Wedell Williams	242.4
3	Roscoe Turner	121	Wedell Williams	233.0
4	Jimmy Haizlip	92	Wedell Williams	231.3
5	Lee Gehlbach	7	GeeBee "R-2"	222.0
6	Bob Hall	6	Hall "Bulldog"	215.5
7	William Ong	39	Howard "Ike"	191.0

The success of the Granville Brothers Model "Z", winning the 1931 Thompson encouraged them to build two new racers for 1932. One for the Thompson (R-1) and one for the Bendix (R-2). While they

were basically the same design, the R-1 had a larger engine and a smaller gas tank than the R-2. Both the R-1 and the R-2 were very difficult to fly. When Jimmy Doolittle's Laird was damaged due to a landing gear failure and Russell Boardman (original pilot for R-1) was injured in a crash, Doolittle became the pilot. The R-1 required great skill to fly, but Jimmy Doolittle was up to the task. The Gee-Bee took an early lead and went on to win.



Gee-Bee R-1



Aerol Trophy

Aerol Trophy Race

Place	Pilot	Race No	Aircraft	Av.Speed
1	Gladys O'Donnell	38	Howard "Mike"	185.5
2	Mae Haizlip	92	Wedell-Williams	183.1
3	F. Klingensmith	14	Monocoupe	174.0
4	Betty Lund		Waco	101.0

The ladies entered in the Aerol Trophy Race showed great courage and skill as they took off into and approaching thunderstorm. A severe storm hit the Cleveland Airport while they were flying the third lap. Despite the storm they continued flying until race officials brought them down. Winners were declared in the positions they held when the race was called off. Gladys O'Donnell had never flown, or even taxied, the Howard "Mike" before the race.



Gladys O'Donnell

1933 National Air Races

By Bill Meixner

The 1933 National Air Races moved back to Los Angeles CA at Mines Field, home of the 1928 races. Cliff Henderson, managing director trimmed the event down to four days by eliminating the Derbies and ATC races. The Bendix transcontinental would fly from East to West for the first departing from Floyd Bennett Field NY



The Bendix Race attracted no less than ten entries including two women pilots, Amelia Earhart and Ruth Nichols. The only bi-plane entered was the Laird Solution which had been highly modified. Two new aircraft, the Vance Flying Wing and the Seversky SEV-3 were on the aircraft entry list.



Vance flying wing



Seversky Sev-3



Modified Laird Solution



Roscoe Turner #2



Jimmy Wedell #44

Bendix Trophy Race

Place	Pilot	Race No	Aircraft	Time
1	Roscoe Turner	2	Wedell Williams	11.30
2	Jimmy Wedell	44	Wedell Williams	11.58
3	Russ Bordman	11	GeeBee R-1	1.
4	Russ Thaw	7	GeeBee R-2	2.
5.	Amelia Earhart	88	Lockheed Vega	3.
6.	Ruth Nichols	112	Lockheed Orion	4.
7.	Lee Gehlbach	92	Wedell Williams	5.
8.	Arthur Knapp	77	Laird Solution	5.
9.	Claire Vance	-----	Vance Flying Wing	5.
10.	Alex de Seversky	-----	Seversky SEV-3	5.

1. Fatal crash in Indianapolis IN
2. Ground looped in Indianapolis IN
3. Out at Wichita KS
4. Forced landing New Bethal IN
5. Did not start

Shell 3-Kilometer Speed Dash

Men's Trophy	Women's Trophy
Roscoe Turner	No entries

Aerol Trophy



Aerol Trophy Race

Place	Pilot	Race No	Aircraft	Av.Speed
1	Mae Haizlip	92	Wedell-Williams	168.2
2	Marty Bowman	54	Gee Bee Y	161.7
3	Gladys O'Donnell		Waco	134.0
4	H Summer		TravelAir	129.9



Thompson Trophy Race

Place	Pilot	Race No	Aircraft	Av.Speed
1	Jimmy Wedell	44	Wedell Williams	237.9
2	Lee Gehlbach	92	Wedell Williams	224.9
3	Roy Minor	38	Howard Special	199.8
4	George Hague	1	Keith-Rider R-2	183.2
5	Z D Granville	154	Gee Bee Model Y	173.0
6	Roscoe Turner	2	Wedell Williams	Disqualified

Roscoe Turner actually won the race at a speed of 241.0 and was awarded the Trophy when a race official declared he was disqualified. Turner had gone inside of pylon #2 but kept going for safety reasons (heavy traffic at the pylon) however he re-circled pylon #2 on the next lap and regained the lead. The Trophy was awarded to Jimmy Wedell.



1930

	#44/#91 (NR278V)	#92 (NR536V)	#121/#57/#2 (NR61Y)	#45 (NR62Y)	#90/#17/#22/#54 (NR60Y)	#22/#54 (NR64Y)
1930 All-America Derby					Jimmie Wedell 8th	
1930 National Air Races (350 c/i Race)					Jimmie Wedell 3rd	
1930 National					Jimmie Wedell	

Air Races (450 c/i Race)					5th	
1930 National Air Races (800 c/i Race)		Errett Williams 2nd				
1930 National Air Races (1000 c/i, 6 lap Race)		Errett Williams 4th				
1930 National Air Races (1000 c/i, 10 lap Race)		Errett Williams 2nd				
1930 National Air Races (Thompson Trophy Race)		Errett Williams DNF				

1931 to 1932

	#44/#91 (NR278V)	#92 (NR536V)	#121/#57/#2 (NR61Y)	#45 (NR62Y)	#90/#17/#22/#54 (NR60Y)	#22/#54 (NR64Y)
1931 Baton Rouge Air Races (Alvin Callender Trophy)		Jimmie Wedell 1st				
1931 Baton Rouge Air Races (800 c/i Race)						
1931 National Air Races (Thompson Trophy Race)	Jimmie Wedell 2nd					
1931 National Air Races (1000 c/i Race)	Walter Wedell 3rd					
1931 National Air Races (Men's & Women's Mixed Race)	Jimmie Wedell 2nd					
1932 National Air Races (Thompson Trophy Race)	Jimmie Wedell 2nd	Jim Haizlip 4th	Roscoe Turner 3rd			
1932 National Air	Jimmie	Jim	Roscoe			

Races (Bendix Trophy Race)	Wedell 2nd	Haizlip 1st	Turner 3rd			
1932 National Air Races (Cleveland Tool Race)		Mary Haizlip 2nd				
1932 New England Air Pageant (Governor's Trophy Race)	Jimmie Wedell 1st					
1932 New England Air Pageant (Robertson-Gaco Trophy Race)	Jimmie Wedell 1st					
1932 New England Air Pageant (Joseph M. Samuels Speed Dash)	Jimmie Wedell 1st					

1933

	#44/#91 (NR278V)	#92 (NR536V)	#121/#57/#2 (NR61Y)	#45 (NR62Y)	#90/#17/#22/#54 (NR60Y)	#22/#54 (NR64Y)
1933 All-American Air Races (Unlimited Free-For-All Race)	Jimmie Wedell 1st					
1933 All-American Air Races (Event #2)	Jimmie Wedell 1st					
1933 All-American Air Races (Event #3)	Jimmie Wedell 1st					
1933 All-American Air Races (Event #4)	Jimmie Wedell 1st					
1933 All-American Air Races (Event #5)	Jimmie Wedell 1st					
1933 National Air Races (Thompson Trophy Race)	Jimmie Wedell 1st	Lee Gelbach 2nd	Roscoe Turner 6th		Burned	
1933 National Air Races (Bendix Trophy Race)	Jimmie Wedell 2nd	Lee Gelbach DNF	Roscoe Turner 1st		W.A. McDonald DNF	
1933 National Air	Jimmie					

Races (1000 c/i, 1st Race)	Wedell 1st					
1933 National Air Races (1000 c/i, 2nd Race)	Jimmie Wedell 1st	Lee Gelbach 2nd				
1933 National Air Races (Shell Speed Dash)	Jimmie Wedell 2nd	Lee Gelbach 3rd	Roscoe Turner 1st			
	#44/#91 (NR278V)	#92 (NR536V)	#121/#57/#2 (NR61Y)	#45 (NR62Y)	#90/#17/#22/#54 (NR60Y)	#22/#54 (NR64Y)
1933 International Air Races (1000 c/i Race)		Lee Gelbach 1st				
1933 International Air Races (550 c/i Race)						Jimmie Wedell DNF
1933 International Air Races (Women's Unlimited)		Mary Haizlip 1st				
1933 International Air Races (Phillips Trophy Race)	Jimmie Wedell 1st	Lee Gelbach 2nd				
1933 International Air Races (Shell Speed Dash)	Jimmie Wedell 1st	Lee Gelbach 3rd				

1934 to 1935

	#44/#91 (NR278V)	#92 (NR536V)	#121/#57/#2 (NR61Y)	#45 (NR62Y)	#90/#17/#22/#54 (NR60Y)	#22/#54 (NR64Y)
1934 Pan American Air Races (1000 c/i Race)	Jimmie Wedell					
1934 Pan American Air Races (100 K Speed Dash)				Jimmie Wedell		
1934 National Air Races (Thompson Trophy Race)	Doug Davis DNF		Roscoe Turner 1st	Johnny Worthen 3rd		

1934 National Air Races (Bendix Trophy Race)	Doug Davis 1st			Johnny Worthen 2nd		
1934 National Air Races (Shell Speed Dash)		Walter Wedell 4th				
1935 National Air Races (Thompson Trophy Race)			Roscoe Turner			
1935 National Air Races (Bendix Trophy Race)		William Ong	Roscoe Turner 2nd			
1935 Greve Trophy Race					David Elmendorf 7th	

1937 to 1939

	#44/#91 (NR278V)	#92 (NR536V)	#121/#57/#2 (NR61Y)	#45 (NR62Y)	#90/#17/#22/#54 (NR60Y)	#22/#54 (NR64Y)
1937 National Air Races (Bendix Trophy Race)		Art Davis DNF	Joe Mackey 7th			
1937 National Air Races (Thompson Trophy Race)			Joe Mackey 9th			
1938 National Air Races (Bendix Trophy Race)		Al Lary DNF				
1938 National Air Races (Thompson Trophy Race)			Joe Mackey 5th			
1939 National Air Races (Thompson Trophy Race)			Joe Mackey 6th			

Powder Puff Derby

The First Women's Air Derby was a transcontinental race that began in Santa Monica, California, and culminated in Cleveland, Ohio, for the 1929 Cleveland National Air Races. Amelia Earhart, Pancho Barnes, Louise Thaden, Bobbi Trout and other women aviators of the era brought international

attention to women in aviation. That same year, The Ninety-Nines Women's Aviation Organization was born... literally under the wing of an airplane in Cleveland.



Amelia Earhart

The history of The Ninety-Nines is deeply rooted in air racing. The Women's Air Derby on August 13-20, 1929 gave women the opportunity to participate in an area of aviation that had been eluding them. Louise Thaden wrote:

"To us the successful completion of the Derby was of more import than life or death. Airplane and engine construction had advanced remarkably near the end of 1929. Scheduled air transportation was beginning to be a source of worry to the railroad. Nonetheless a pitiful minority were riding air lines. Commercial training schools needed more students. The public was sceptical of airplanes and air travel. We women of the Derby were out to prove that flying was safe; to sell aviation to the layman."

Seventy women held U.S. Department of Commerce licenses in August 1929, but only 40 met the race requirements. Participants had to have 100 hours of solo flight including 25 hours of solo cross-country to points more than 40 miles from the starting airport. The pilot also had to hold a license from the Federation Aeronautique Internationale (FAI) and an annual sporting license issued by the contest committee of the National Aeronautics Association (NAA). Each participant also had to carry a gallon of water and a three-day food supply.

Twenty women entered the Derby. The course took eight days to fly and navigate using only dead reckoning and road maps. Undaunted by route changes, sabotage, and death, 14 women completed the Derby with Louise Thaden finishing first. Other women who completed the race in one of the two plane categories were Gladys O'Donnell, Amelia Earhart, Blanche Noyes, Ruth Elder, Neva Paris, Mary Haizlip, Opal Kunz, Mary von March, Vera Dawn Walker, Phoebe Omlie, Edith Foltz, Jessie Keith-Miller, and Thea Rasche. Though out of the competition with two forced landings, Bobbi Trout also completed the course.



Bobbi Trout

Louise Thaden and Blanche Noyes went on to win the prestigious Bendix Trophy Race on September 4, 1936 landing at Mines Field in Los Angeles in a bright blue Beechcraft Staggerwing C-17R. This was the first time that women had won the coveted Bendix Trophy. Laura Ingallas in her Lockheed Orion crossed the finish line 45 minutes later to win second place. Amelia Earhart and Helen Richey finished fifth. This was the second year that women were allowed to participate in the race that was started in 1931.

Prior to the Bendix Trophy Race, air racing officials just would not believe that women were skilled enough to compete against men. Women were encouraged to hold their own competitions. From this came competitions such as the Women's International Free-For-All. Occasionally, women were allowed to compete with the men, such as the National Air Race and Transcontinental Handicap Air Derby, but any accident gave race officials one more excuse to exclude women.

Such a situation occurred with Florence Klingensmith's fatal crash in a Gee Bee Y during the 1933 Frank Phillips Trophy Race in Chicago. That crash was the reason given for keeping women out of the 1934 Bendix Race. Protesting the decision, Amelia Earhart refused to fly actress Mary Pickford to Cleveland to open that year's races.

Although women were not allowed to compete in major races until the 1930s, many air races created separate divisions for the women. The women's divisions were mirror images of the men's divisions, and it was soon noted that the women's times and speeds were very close to the men's.

One of the all-women races was the Dixie Derby from Washington, D.C. through the southern states and up to Chicago. Another was the Women's National Air Meet held in August 1934 at Dayton, Ohio. This race drew 20 women pilots for 20- and 50-mile free-for-all races.

During the 1930s, one of the more interesting races that made up the National Air Races was the Ruth Catterton Air Sportsman Pilot Trophy Race. This race, started in 1935, was not a speed race but a test of precision flying. Winners were the pilots that could navigate and pilot their aircraft the most accurately. Ruth Chatterton was an actress and private pilot, and agreed to sponsor the contest.

Under the leadership of the new Ninety-Nines president Jeanette Lempke, who was elected immediately after World War II, one focus of the Ninety-Nines became the rejuvenation of the women's air races. In 1947 Mardo Crane, a former WASP, was chairman of the first All Woman Air

Race on behalf of the Ninety-Nines. The race ran 2,242 statute miles from Palm Springs, California to Tampa, Florida. The first year, the race had two contestants; and in 1948, seven contestants.

The 1948 and 1949 Jacqueline Cochran All-Woman Transcontinental Air Race marked the formal beginning of the All-Woman Transcontinental Air Race (AWTAR). Members of The Ninety-Nines Los Angeles chapter drafted the first real set of rules and regulations for air racing, and developed an official timekeeping system (the old system was honor based.) The AWTAR became affectionately known as the “Powder Puff Derby” using a reference to the 1929 Women’s Air Derby by Will Rogers.

In 1951 and 1952, in response to the Korean War, the AWTAR was called “Operation TAR” (Transcontinental Air Race) and was operated as a training mission to “provide stimulation as a refresher course in cross-country flying for women whose services as pilots might once again be needed by their country.”

The AWTAR became a major event with its own office and permanent executive secretary. A nine-women board of directors spent a full year preparing for each race. Safety was always a priority in the AWTAR, and gradually over the years, the message was clear to the public – women are good pilots.

During the 1960s, the prime interest and major commitment of The Ninety-Nines was air racing. In addition to the All-Woman Transcontinental Air Race, The Ninety-Nines embraced the All Woman’s International Air Race, or “Angel Derby.” The race was open to all women and The Ninety-Nines helped to organize and manage the race, aside from forming the largest core of enthusiastic contestants.

The last AWTAR was held in 1977. The end of the race was due to rising costs, diminished corporate sponsorship, and new levels of air traffic congestion.

Competition in the air is still important and continues with other races today. These races include the Palms to Pines Air Race, Air Race Classic, Sun ’n Fun, Great Southern Air Race, IlliNines Air Derby, U.S. Air Race and Rally, Garden State 300, Okie Derby, and the Mile High Derby. Another major event in recent years is the World Precision Flying Championship.

Thompson Trophy



The first of these events, the Thompson Cup Race, was added to the Nationals in 1929. The closed-course event for unlimited planes, sponsored by Cleveland manufacturer Charles E. Thompson, was an immediate success. Like the barnstorming events, the race provided breathtaking excitement for the crowd. In 1930, the name of the race was changed to the Thompson Trophy, but the importance of the event remained unchanged. From then until it was ended in 1939, the Thompson Trophy Race provided the climactic final event of each year's National Air Races meeting. It was also the premier closed-course race in the world.

The Thompson Trophy Race, as well as the other closed-course races, was among the most popular events with the crowds that filed into the grounds and filled the grandstands for the competitions. Although the courses varied in length and shape, the races were generally flown over a course of about 10 miles long with 50-foot-high pylons marking the turns. With their high speeds and wing-tip-to-wing-tip flying, the closed-course races were loaded with breathtaking action. Because the races were flown at low altitudes and around a closed course, the crowds in the grandstands could easily see much of the spectacle. All in all, the Thompson Trophy and the other closed-course races were spectator sport of the highest order.



The Thompson Trophy award plaque. This one was awarded to first-prize winner Cook Cleland in 1947.

One innovation that the Hendersons brought to the Thompson Trophy and the National Air Races to make them more appealing to the crowds was the massed start for the closed-course events. Instead of taking off at timed intervals, as had been the custom at most closed-course air races before that time, the planes in the National Air Races took off together.

Lined up on the field side by side at about 100-foot intervals, the planes took off 10 seconds apart. Each cleared a staging pylon, which equalized the interval. And once the planes passed onto the course, each competitor was in his relative position on the course. The arrangement, unlike timed events, made competition wing tip to wing tip and helped make the events more exciting by allowing competitors and spectators alike to see just how daring the competition really was.

Death was not an uncommon occurrence in any form of air racing in the 1930s. Close flying, low altitudes, and high speeds, however, made the Thompson Trophy races particularly dangerous

events. Death was a constant companion for the competitors, and each year the death of another competitor seemed to mar the event.

During the first Thompson Trophy Race in Chicago in 1930, a young Marine pilot, Captain Arthur Page, was leading the race and seemed well on his way to winning in his XF6C-6, an extensively rebuilt Curtiss Hawk fighter to which, among other things, an 800-hp Curtiss Conqueror engine had been added. Then, on lap 17, as Page was rounding the home pylon in front of the grandstand, his plane shuddered, went into a slow roll, and crashed. No one ever knew what happened to his plane. Charles "Speed" Holman, in a Laird "Solution" that had been completed only hours before the start of the race, went on to win. Page survived the crash, only to die from head injuries a few days later.



1934 - Roscoe Turner is congratulated by Mary Pickford after his Thompson Trophy victory

The legacy of death that was begun in that first race was to follow the Thompson Trophy for many years. In fact, death seemed to stalk the victors of the Thompson Trophy. Both 1930 winner Speed Holman and 1931 winner Lowell Bayles were killed in competitive crashes within a few months of their Thompson Trophy victories, and in 1933 winner Jimmy Wedell was killed in a non-racing crash in June 1934. On the eve of the 1934 race, only one former winner, 1932 champion Jimmy Doolittle, who had retired shortly after his victory, remained alive.

The prestige of the Thompson Trophy was, in itself, sufficient to assure the status of the National Air Races as one of the world's premier aviation meets.

Pre-war Thompson Trophy Records

Pilot	Ship and Motor	Prize Money	Speed mph
1930			
Charles W. Holman, 1st	Laird LC-DW-300 "Solution" - P&W Wasp Jr.	\$5000.00	201.91
	Travelair "R" "Mystery" - Wright R-975	3000.00	199.80
James G. Haizlip, 2nd	Howard DGA-3 "Pete" - Wright Gipsy	2000.00	162.80

Ben O. Howard, 3rd Paul T. Adams, 4th Capt. Page Erett Williams Frank Hawks	Travelair Speedwing - Wright Curtiss XF6C-6 - Curtiss D-12 Wedell-Williams "We-Winc"- Wright R-765 Travelair "R" "Mystery" - Wright R-975	... Out Lap 17 Out Lap 8 Out Lap 3	142.64 CRASH
1931 Lowell Bayles, 1st James R. Wedell, 2nd Dale Jackson, 3rd Robert L. Hall, 4th Ira C. Eaker, 5th Ben O. Howard, 6th William Ong, 7th James H. Doolittle	Gee Bee "Model Z" - P&W Wasp Jr. Wedell-Williams "44" - P&W Wasp Jr. Laird LC-DW-300 "Solution" - Wright R-975 Gee Bee "Model Y" - P&W Wasp C Lockheed - P&W Wasp Howard DGA-3 "Pete" - Wright Gipsy Laird - Wright Whirlwind Laird LC-DG-500 "Super Solution" - P&W Wasp Jr.	\$7500.00 4500.00 3000.00 Out lap 7	236.239 227.992 211.183 201.511 192.821 163.513 153.049
1932 James H. Doolittle, 1st James R. Wedell, 2nd Roscoe Turner, 3rd James G. Haizlip, 4th Lee Gehlbach, 5th Robert Hall, 6th William Ong, 7th	Gee Bee "Model R-1" - P&W Wasp Wedell-Williams "44" - P&W Wasp Jr. Wedell-Williams "44" - P&W Wasp Jr. Wedell-Williams "44" - P&W Wasp Jr. Gee Bee "Model R-2" - P&W Wasp Jr. Springfield "Bulldog" - P&W Wasp Howard DGA-5 "Ike" - Menasco Buccaneer	\$4500.00 2500.00 1500.00 1000.00 500.00	252.686 242.496 233.042 231.30 222.09 215.570 191.073
1933 James R. Wedell, 1st Lee Gehlbach, 2nd Roy Minor, 3rd George Hague, 4th Z. D. Granville, 5th Roscoe Turner	Wedell-Williams "44" - P&W Wasp Wedell-Williams "44" - P&W Wasp Jr. Howard DGA-4 "Mike" - Menasco Buccaneer Keith-Rider "R-2" - Menasco Pirate Gee Bee "Model Y" - P&W Wasp C Wedell-Williams "44" - P&W Wasp	\$3375.00 1875.00 1125.00 750.00 375.00 disqualified	237.952 224.947 199.870 183.206 173.079
1934 Roscoe Turner, 1st Roy T. Minor, 2nd J. A. Worthen, 3rd Harold Neumann, 4th Roger Don Rae, 5th Art Chester, 6th Doug Davis Lee Miles	Wedell-Williams "44" - P&W Hornet Brown Special - Menasco Wedell-Williams "44" - P&W Wasp Howard DGA-4 "Ike" - Menasco Buccaneer Keith-Rider - Menasco Chester Special - Menasco Wedell-Williams "44" - P&W Wasp Miles & Atwood Special - Menasco	\$4500.00 2500.00 1500.00 1000.00 500.00 ... Out Lap 8 Out Lap 12	248.129 214.929 208.376 207.064 205.358 191.597 CRASH
1935 Harold Neumann, 1st S. J. Wittman, 2nd Roger Don Rae, 3rd Joe Jacobson, 4th Lee Miles, 5th	Howard DGA-6 "Mr. Mulligan" - P&W Wasp Wittman "Bonzo" - Curtiss D12 Keith-Rider - Menasco Howard DGA-4 "Mike" - Menasco Buccaneer Seversky SEV-3 Amphibian - Wright Cyclone	\$6750.00 3750.00 2250.00 1500.00 375.00	220.194 218.686 213.942 209.103 193.594

Marion McKeen, 6th Roscoe Turner	Brown Racer - Menasco Wedell-Williams "44" - P&W Hornet	375.00 Out 130+ miles	188.859
1936 Michel Detroyat, 1st Earl Ortman, 2nd Roger Don Rae, 3rd Harold Neumann, 4th Marion McKeen, 5th Harry Crosby, 6th Leon Atwood	Caudron Special C-460 - Renault Keith-Rider - P&W Wasp Rider Racer - Menasco Folkerts Special - Menasco Brown B2 - Menasco Crosby Special - Menasco GMD R-6H "Q.E.D." - P&W Hornet	\$9500.00 4375.00 2450.00 1575.00 1225.00 875.00 Out lap 11	264.261 248.04 236.55 233.07 230.55 226.07
1937 R. A. Kling, 1st Earl Ortman, 2nd Roscoe Turner, 3rd F. Sinclair, 4th S. J. Wittman, 5th Ray Moore, 6th C. H. Gotch, 7th Joe Mackey Marion McKeen	Kling SK-3."Jupiter" - Menasco Marcoux-Bromberg R-3 - P&W Tw. Wasp Jr. Laird-Turner LTR-14 - P&W Tw. Wasp Seversky P-35 - P&W Tw. Wasp Wittman "Bonzo" - Curtiss D12 Seversky P-35 - P&W Tw. Wasp Schoen-Rider - Menasco Wedell-Williams "44" - P&W Hornet "Miss Los Angeles" - Menasco	\$9000.00 5000.00 3000.00 2000.00 1000.00 300.00 250.00 out lap 17 out lap 13	256.910 256.858 253.802 252.360 250.108 238.411 217.810
1938 Roscoe Turner, 1st Earl Ortman, 2nd S. J. Wittman, 3rd Leigh Wade, 4th Joe Mackey, 5th Joe Jacobson, 6th Harry Crosby Art Chester	Laird-Turner LTR-14 - P&W Tw. Wasp Marcoux-Bromberg - P&W Tw. Wasp Jr. Wittman "Bonzo" - Curtiss D-12 Military Aircraft HM-1 - P&W Tw. Wasp Wedell-Williams "44" - P&W Hornet Keith-Rider R-6 - Menasco Crosby CR-4 - Menasco "The Goon"- Menasco	\$22000.00 9000.00 4500.00 2500.00 1800.00 1400.00 out lap 10 ...	283.419 269.718 259.187 249.842 249.628 214.570
1939 Roscoe Turner, 1st Tony LeVier, 2nd Earl Ortman, 3rd Harry Crosby, 4th S. J. Wittman, 5th Joe Mackey, 6th Art Chester	Laird-Turner LTR-14 - P&W Tw. Wasp Schoenfeldt "Firecracker" - Menasco Marcoux-Bromberg - P&W Tw. Wasp Crosby CR-4 - Menasco Wittman "Bonzo" - Curtiss D-12 Wedell-Williams "44" - P&W Hornet "The Goon"- Menasco	\$16000.00 8000.00 4000.00 2500.00 1500.00 1000.00 out lap 17	282.536 272.538 254.435 244.522 241.361 232.926

Bendix Trophy



In 1931 Cliff Henderson decided that the United States needed an annual cross country air race to promote and encourage the achievements of the US aviation community. The emphasis would be placed on reliability and endurance as well as speed. To this end Cliff Henderson managed to persuade businessman, Mr. Vincent Bendix, to back his ideas and the Bendix Transcontinental Trophy Race was born.

During the "Golden Age of Aviation" (mid-1920's to the late 1930's) the Bendix Race attracted many of America's most innovative and daring aviators, many of whom would win many aviation records over the years. After the war the event became a military event and for most people it lost its pioneering appeal that had made it so popular in the early years.

Up until the early 1930's, the race was completely male dominated and the races were seen as no place for women. Admittedly, it was mainly the male pilots who kept women from competing. The tragic death of Florence Klingensmith at the Frank Phillips Trophy Races in Chicago flying her Gee Bee racer led to Henderson ruling women out of the 1934 finals. However, women could not be kept from competing for long and the ban was lifted in 1935 following increasing pressure from America's increasingly talented top female pilots. The only question left was, "were women up to the stresses and endurance demanded by the race?".

Each year in early September the aviation world has been thrilled by the roar of planes competing in the Bendix Trophy Race. This year the roar will be only a memory. The National Air Races at Cleveland themselves, of which the Bendix "Transcontinental Speed Dash" was always an exciting part, have been postponed from Labor Day to Armed Forces Day next May.

The Bendix as we have known it since its start nineteen years ago will not be there. Military jet planes alone, if current plans for inclusion of the "J" or jet division are carried out, will vie for the title of fastest-cross-country. Propeller-driven craft and their civilian pilots, it is now realized, flew their last race in 1949.

So, as we close our books on another colourful episode in the on-moving drama of flight, we see in retrospect, a story of great flyers and great airplanes which have characterized the Bendix classic through the years.

Proponents of cross-country air racing have long claimed for it the distinction of being the most practical of all the forms of the high-speed game. Only in these long-range grinds, they contend, do you encounter flying conditions comparable to what an airplane in everyday service must face. Such a contest is a basic problem of getting from one point of the country to another in the shortest possible time, which is, after all, the fundamental purpose of the airplane. Furthermore, it is the

supreme test of the pilot's skill in pre-flight planning and preparation and in-flight navigation. It was with these thoughts in mind that the late Vincent Bendix, manufacturer of aviation accessories, created the great race which bears his name.

For many years before the Bendix was established, civilian air racing had centred in the cross-country type of event. These were generally worked out on a handicap basis, taking into account the speed, power and range of the competing planes. But with the coming of the Bendix, these lesser races passed from the picture. For the Bendix was an all-out race for speed. No limitations were placed on the design or power of the airplanes, nor on the route which a pilot might choose to follow to accomplish his mission, As a consequence, this big race has always attracted the nation's most colourful flyers and the fastest airplanes.

James H. Doolittle, who has left his imprint on so many of aviation's annals, inaugurated the Bendix back in 1931 by flying from Los Angeles to Cleveland in 9 hours, 10 minutes and 21 seconds to win at an average speed of 223.058 miles per hour. This was shortly after Doolittle had retired from the Army Air Corps with the rank of major. While in the Air Corps he had established himself as the Army's top-ranking speed pilot. Naturally that reputation followed him into civilian life, and he lost no time in proving his right to it.

Jimmie flew the only specially built racing plane entered in that first Bendix race. It was a small airplane by today's standards, a bi-plane of just 21-foot span and 1,580 pounds' weight. This was the Laird Super Solution. It was powered by the air-cooled Pratt & Whitney Wasp Jr. engine of 510 horsepower. Actually, this racer was a refined version of the Laird Solution which won the first Thompson Trophy Race the year before.

Doolittle made refuelling stops at Albuquerque and Kansas City. At Cleveland he refuelled again and went on to Newark to break the transcontinental speed record at 11 hours, 16 minutes and 10 seconds. For winning the race he collected a purse of \$5,000 plus an additional \$2,500 for the cross-country record.

Of the eight planes starting in this race, six finished within the established time limit. Aside from the winning Laird, all of the finishing planes were commercial model Lockheed Orions and Altairs. Harold Johnson made the best time of this group, coming in one hour and four minutes behind Doolittle.



Jimmy Doolittle
1931



Doug Davis
1934



Ben Howard
1935



Louise Thaden
1936



Frank Fuller Jr.
1937 & 1939



Jacqueline Cochran
1938



Paul Mantz
1946-47-48



Joe De Bona
1949



The Bendix has on occasion brought unusual distinction to the designer and builder of a racing airplane as well as to its pilot. This was particularly true in the case of James R. Wedell. Although this designer-pilot who built his own racing planes in a small hangar at Patterson, Louisiana, never won the big race himself, his airplanes figured prominently in it for a number of years. For instance, the three racers which he built for the 1932 races, each in turn won the Bendix. In fact, in that '32 event they finished in one-two-three order with James Haizlip, Wedell and Roscoe Turner capturing those respective positions.

Turner copped the trophy in '33 and Doug Davis flew Wedell's own "Miss Patterson" to victory in '34. Wedell planes also took second money in both of these latter races and were the only entries to finish within the allotted time.

This transcontinental dash has not always been a Los Angeles to Cleveland affair, for on two occasions the National Air Races were terminated at the West Coast metropolis. That was in 1933 and again in 1936. In these years New York served as the starting point and the race was thus fully transcontinental in nature. Incidentally, this east to west crossing of the nation was considered much more difficult in those days because of prevailing head winds.

Up-and-coming Roscoe Turner scored the first major victory of his long and colourful career in air racing when he won that '33 event. His time of 11 hours and 30 minutes was an east-west record and evidence of the gruelling type of flying found in the Bendix of that time. It was reliable Jimmy Wedell

who placed second to Roscoe. This was the race in which Russell Boardman lost his life when his big Gee Bee racer crashed on take-off after refuelling at Indianapolis.

The other east to west race, that of 1936, was strictly a “ladies’ day” affair and the slowest of all the Bendix contests. Louise Thaden with Blanche Noyes as her co-pilot flew a stock model Beechcraft biplane into the winner’s circle in less than 5 minutes under 15 hours. Laura Ingalls followed with a Lockheed Orion and Amelia Earhart took fifth position with her Lockheed Electra. Strangely enough, only commercial planes finished this race, with all of the special racers being forced out along the route. Even a big Douglas DC-2 finished in the money. Of course that 1936 race was not the only Bendix in which the ladies have starred. Amelia Earhart was the first of her sex to participate, taking fifth position with a Lockheed Vega in 1935. Then the famous Jacqueline Cochran entered the picture with a third place in 1937. Jackie’s big year, however, came in 1938 when she won the contest under adverse weather conditions and against red-hot competition. She flew a civilian equivalent of the Seversky P-35. Again in the postwar races of 1946 and 1948 Miss Cochran proved her ability at the long-range game when she took a second and a third place in her P-51.

The only airplane ever designed for the specific purpose of winning the Bendix Trophy was Ben Howard’s “Mister Mulligan.” That was back in 1935. Although Howard had won his fame as a pylon duster, his job as a transport pilot for United Airlines forbade his participation in closed-course competition. So Ben made an all-out bid for the Bendix. With the aid of Gordon Israel, who is now an engineer for Grumman, he developed an airplane which was to introduce a new technique in transcontinental racing. “Mr. Muilligan” was designed to fly the course nonstop and at high altitude. Neither of these practices had been followed before that time. They were definitely a forward step in long-distance flying and they brought victory to Howard and co-pilot Israel.

This, by the way, was the closest of all Bendix races. Roscoe Turner flying his powerful Wedell-Williams, which was actually a faster airplane, had to make refuelling stops. He also flew at the then conventional lower altitudes. Yet he finished just 23 seconds behind Ben Howard.

“Mister Mulligan” was truly a fine airplane, for it not only won the Bendix but also the Thompson Trophy for Harold Neumann in a type of race for which it was not particularly well suited. It was a high-wing cabin monoplane, the direct ancestor of the Howard DGA-8, four-place commercial airplane of later years. Unfortunately, the “Mulligan” was completely destroyed in a crash landing which almost cost the lives of Benny and his co-pilot wife, Maxine, in the 1936 Bendix race.



Seversky (civilian race version of the P-35) 1937-38-39 Winner

The first man to repeat a Bendix victory was Frank Fuller, Jr. This sports man pilot got his name on the trophy in 1937 and 1939. Like Jackie Cochran, Fuller was well off in his own right and flew airplanes for the fun of it. He found the Bendix a real adventure. Fuller, too, flew a Seversky P-35. His 1939 time of 7 hours, 14 minutes and 19 seconds was the best of the prewar records, an average

speed of 282.098 mph.

During the war years of 1940 to 1945 there was no air racing. But those years produced the airplanes which were to be featured in the postwar Bendix. With surplus fighter planes available at less money than would be required to build a suitable airplane, the Bendix was assured of plenty of hot entries for its resumption in 1946. In fact, that race stands as the one having the greatest number of participants. Twenty-two racers actually made the starting line-up and seventeen finished. Of these, the majority were Lockheed P-38s. But the P-51 demonstrated its superiority when the four in the race took the first four places.

Paul Mantz, the Hollywood stunt flyer, took home the Bendix Trophy that year with the remarkable time of 4 hours, 43 minutes and 14 seconds or 435.5 mph. Mantz is undoubtedly the all-time master of cross-country air racing, for he went on to repeat his Bendix victory again in '47 and '48. In addition, he has broken more long-distance speed records than you can shake a stick at. His remarkable work with the P-51 is an outstanding page of Bendix history.

The last Bendix Trophy Race was flown in 1962. Captain Bob Sowers piloted an Air Force B-58 Hustler from Los Angeles to New York in just 2 hours 56 seconds and won the race. This was quite a contrast to the first race in 1931 when Jimmy Doolittle in his Laird Super Solution flew from Los Angeles to Cleveland in 9 hours 10 minutes, or to Louise Thaden's 1936 win from New York to Los Angeles in her Staggerwing Beechcraft C-17R with a time of 14 hours 55 minutes.



North American P-51 as a Post War Racer 1946 to 1948 Winner

These postwar races have been notable for their close finishes. Mantz nosed out Jackie Cochran by a few seconds less than 10 minutes, in '46, beat Joe De Bona by a mere 1 minute and 18 seconds in '47 and edged out Linton Carney by 1 minute, 9 seconds in '48.

Then too, in that 1948 contest Jacqueline Cochran followed Carney in by only 10 seconds and Ed Lunken trailed her by 2 minutes and 39 seconds, a real whirl wind finish. These pilots all flew P-51s.

Fittingly, the last of the races for propeller-driven airplanes – 1949 - closed with an all-time record speed. Joe De Bona, flying for movie actor Jimmie Stewart, made the run in 4 hours, 16 minutes and 17 seconds at a speed of 470.136 mph.

It was with the postwar resumption of the Bendix Speed Dash that aviation's newest important development came into the picture. Jet propulsion entered air racing. A special "J" division of the Bendix was set up in 1946 with a select group of military planes and pilots participating. These events have naturally been faster than the traditional civilian race and have made a spectacular showing. However, they have not as yet resulted in a race between the service branches. Rather, the Air Force and the Navy have taken turns at staging this classic event.

On the first two occasions, Air Force F-80s put on the show and then the Navy FJ-Is had a crack at it. Last year the Air Force's Thunderjets succeeded in making the run in less than four hours! Major Vernon A. Ford piloted the winning ship in at an average speed of 529.614 mph, a time of 3 hours, 45 min., 51 sec. (one fuelling stop).

The very fact that a modern airplane can now negotiate this distance in so short a time is due in no small part to the engineering research and flying experience that have gone into the Transcontinental Speed Dash over the years.

Pre-war Bendix Trophy Records

Pilot	Ship and Motor	Prize Money	Aver. Speed mph	Time
1931 - Los Angeles to Cleveland				
J. H. Doolittle, 1st	Laird "Super Solution" - P&W Wasp Jr.	\$7500.00*	233.058	9:10:21
H. S. Johnson, 2nd	Lockheed - P&W Wasp	4500.00	199.816	
Beeler Blevins, 3rd	Lockheed - P&W Wasp	3000.00	9;10:14:22	
Ira C. Eaker, 4th	Lockheed - P&W Wasp		188.992	10:49:33
Arthur Goebel, 5th	Lockheed - P&W Wasp		188.070	10:59:45
James G. Hall, 6th	Lockheed - P&W Wasp		171.500	11:55:48
			159.187	12:51:16
1931 Burbank to Newark - Doolittle continued on to Newark, NJ to make it in 11:16:10 with three stops				
which beat Frank Hawks' August 13, 1931 record of 12:24 in his Texaco No.13 Travel Air Model R which in turn beat the Lindbergh's April 21, 1930 record of 14:45 in their Lockheed Sirius				
1932 - Burbank to Cleveland				
James G. Haizlip, 1st	Wedell-Williams "44" - P&W Wasp Jr.	\$6750.00*	245.	8:19:45
James R. Wedell, 2nd	Wedell-Williams "44" - P&W Wasp Jr.	3750.00		8:47:31
Roscoe Turner, 3rd	Wedell-Williams "44" - P&W Wasp Jr.	2250.00		9:02:25
Lee Gehlbach, 4th	Wedell-Williams "44" - P&W Wasp Jr.	1500.00		9:41:39
Claire Vance	Gee Bee "Model R-2" - P&W Wasp Jr.	...		
	Viking			
1932 Burbank to NYC - Haizlip continued on to NYC to make it in 10:19 with two stops as did Roscoe Turner in 10:58				
both beating Doolittle's 1931 record of 11:16				
1933 - New York to Los Angeles				
Roscoe Turner, 1st	Wedell-Williams "44" - P&W Wasp	\$5050.00*	214.78	11:30:00
J. R. Wedell, 2nd	Wedell-Williams "44" - P&W Wasp Jr.	2250.00	209.23	11:58:18
Lee Gehlbach	Wedell-Williams "44" - P&W Wasp Jr.	...		
Amelia Earhart	Wedell-Williams "44" - P&W Wasp Jr.	...		
Russell Boardman	Wedell-Williams "44" - P&W Wasp Jr.	crash		
Russell Thaw	Lockheed Vega - Gee Bee "Model R-1" - P&W Hornet	withdrew		
	Gee Bee "Model R-2" - P&W Wasp			

1933 NYC to Burbank - The 1933 Bendix was an east-west transcontinental race Turner set a new record of 11:30 and Wedell at 11:58 also beat Turner's own 1932 record of 12:33 which beat Frank Hawks' 1930 record of 14:50 in his Texaco No.13 Travel Air Model R			
1933 -- not in the Bendix, on June 2, 1933, Captain Frank Hawks flying his Northrop Gamma, Texaco No.11 "Sky Chief", flew non-stop from from Los Angeles to Newark in 13:27 averaging 181 mph			
1934 - Los Angeles to Cleveland	Wedell-Williams "44" - P&W Wasp Jr.	\$4500.00	216.237 9:26:41
Doug Davis, 1st	Wedell-Williams "45" - P&W Wasp	2500.00	203.213 10:03:00
J. A. Worthen, 2nd	GMD "Model R-6H" "Q.E.D." - P&W Hornet		
Lee Gehlbach, 3rd			
1935 - Los Angeles to Cleveland	Howard DGA-6 "Mr. Mulligan" - P&W Wasp	\$4500.00	238.704 8:33:16
Ben O. Howard, 1st	Wedell-Williams "44" - P&W Hornet	2500.00	238.522 8:33:39
Roscoe Turner, 2nd	Northrop Gamma - Wright Cyclone	1500.00	201.928 10:06:45
Russell Thaw, 3rd	Lockheed Orion - P&W Wasp	1000.00	174.766 11:41:03
Roy O. Hunt, 4th	Lockheed Vega - P&W Wasp	500.00	149.578 13:47:06
Amelia Earhart, 5th	Northrop Gamma - P&W Tw. Wasp Jr.
Earl Ortman	Keith Rider R-3 - P&W Wasp
Jacckie Cochran	GMD "Model R-6H" "Q.E.D." - P&W Hornet
Royal Leonard	Spirit of Right - P&W Hornet	crash at start	
Cecil Allen			
1936 -- not in the Bendix, on January 14, 1936, Howard Hughes broke the transcontinental U.S. speed record in Jackie Cochran's Northrop Gamma which he leased, rebuilt and outfitted with an 800 hp Wright G Cyclone. The 2,490-mile flight from Burbank to Newark took him 9:27:10 averaging 259.111 mph			
1936 - New York to Los Angeles	Beechcraft - Wright 420	\$7000.00	166.060 14:55:00
Louise Thaden, 1st	Lockheed - P&W Wasp	2500.00	15:39:38
Laura Ingalls, 2nd	Vultee - Wright	1500.00	15:45:25
William Gullck, 3rd	Douglas - Wright	1000.00	16:16:51
Geo. C. Pomeroy, 4th	Lockheed - P&W Wasp	500.00	16:34:53
Amelia Earhart, 5th	Northrop Gamma - Wright	exploded	
Joseph Jacobson	Howard DGA-6 "Mr. Mulligan" - P&W Wasp	crash	
Ben O. Howard	Wedell-Williams "44" - P&W Hornet	crash before start	
Roscoe Turner			
1937 -- not in the Bendix, on January 19, 1937, Howard Hughes broke the transcontinental U.S. speed record in his H-I racer. The 2,490-mile flight from Los Angeles to Newark took him 7:28:25 averaging 332 mph			

1937 - Los Angeles to Cleveland	Seversky SEV-S2 - P&W Tw. Wasp	\$13,000.00*	258.242	7:54:26
Frank Fuller, 1st	Wasp	5,000.00	224.833	9:49:21
Earl Ortman, 2nd	Keith-Rider R-3 - P&W Tw. Wasp	5,500.00	194.740	10:29:08
Jacqueline Cochran, 3rd	Jr.	2,000.00	184.92	11:02:33
Frank Sinclair, 4th	Beechcraft D-17W - P&W Wasp	1,000.00	184.52	11:03:58
Milo Burcham, 5th	Seversky SEV-S - P&W Tw. Wasp	...		
Joe Mackey	Lockheed - P&W Wasp Jr. Wedell-Williams "44" - P&W Hornet			

1937 Los Angeles to Bendix, NJ - Frank Fuller - 9:35 - a new record

1938 - Los Angeles to Cleveland	Seversky SEV-S - P&W Tw. Wasp	\$12,500.00*	249.744	8:10:31
Jacqueline Cochran, 1st	Wasp	5,800.00	238.604	8:33:29
Frank Fuller, Jr., 2nd	Seversky SEV-S2 - P&W Tw. Wasp	3,000.00	206.579	9:36:25
Paul Mantz, 3rd	Wasp	2,000.00	199.330	10:14:39
Max Constant, 4th	Lockheed Orion - Wright Cyclone	...	181.842	11:13:46
Ross Hadley	Beechcraft D-17S - P&W Wasp Jr.	...	177.449	11:30:27
John Hinchey	Jr.	...		
George Armistead	Beechcraft D-17 - P&W Wasp Jr. Spartan Executive - P&W Wasp Jr. GMD "Model R-6H" "Q.E.D." - P&W Hornet			

1938 Los Angeles to Bendix, NJ - Jacqueline Cochran - 10:07:01 - a new Women's Record

1939 - Los Angeles to Cleveland	Seversky SEV-S2 - P&W Tw. Wasp	\$15,000.00*	282.098	7:14:19
Frank Fuller, Jr., 1st	Wasp	5,800.00	244.486	8:21:08
Arthur Bussy, 2nd	Bellanca 2892 - 1 Ranger-2	3,000.00	234.875	8:41:38
Paul Mantz, 3rd	Menasco	2,700.00	231.366	8:49:33
Max Constant, 4th	Lockheed Orion - Wright Cyclone Beechcraft D-17W - P&W Wasp Jr.			

1939 Los Angeles to Bendix, NJ - Frank Fuller - 8:58:8 - a new record

* includes additional purse for breaking record

post-war Bendix records

1946—LOS ANGELES TO CLEVELAND				
Paul Mantz	P-51	435.501	4:43:14	\$10,000
Jacqueline Cochran	P-51	420.925	4:52 :00.4	\$5,500
Thomas J. Mayson	P-51	408.220	5:01:05.6	\$3,000
1947—LOS ANGELES TO CLEVELAND				

Paul Mantz	P-51	460.423	4:26:57.4	\$10,000
Joe C. DeBona	P-51	458.203	4:28:15.0	\$5,500
Edmund Lunken	P-51	408.733	5:00:43.0	\$3,000
1948—LOS ANGELES TO CLEVELAND				
Paul Mantz	P-51	447.980	4:33:48.7	\$10,000
Linton B. Carney	P-51	446.112	4:34:57.5	\$5,500
Jacqueline Cochran	P-51	445.847	4:35:07.3	\$4000
1949—ROSAMOND DRY LAKE, CALIF., TO CLEVELAND				
Joe C. DeBona	F-51	470.136	4:16:17.5	\$10,000
Stanley Reaver	F-51	450.221	4:27:37.7	\$5,500
Herman Salmon	F-51	449.214	4:28:13.7	\$3,000

air racing after World War 2



T6 Texan racing at Reno

After World War II, the dominant role of air power spurred a great increase in air racing, and the National Air Races resumed at Cleveland in 1946 under the auspices of the Air Foundation. All the competing airplanes were ex-military fighters and trainers, in contrast to the wonderful custom-built racers of the 1930s. The Bendix and Thompson Trophies were contested in two divisions—Reciprocating and Jet—while other events were held for what later became known as Unlimiteds, and for modified AT-6/SNJ/Harvard Advanced trainers flown by women who were not allowed to compete against men around the pylons.

Despite the speed and noise of the modified Mustangs and Airacobras and Corsairs, the crowd sensed the absence of the old creative atmosphere. After the 1946 Races, the Air Foundation asked for help from the Professional Race pilots Association, which had worked with it since 1934. The addition of small, low-power racers built to an elaborate set of rules brought back the “little guy” and originality.

They all raced successfully for three years, but in 1949, a P-51C Mustang flown by round-the-world flyer Bill Odom crashed into a home, resulting in three deaths. This, combined with the withdrawal of military participation upon the start of the Korean Conflict the following June, left too little of the program to justify the name “National Air Races”.

Racing for the 190 Cubic Inch Class “midgets” continued for the Continental Trophy at Detroit and Miami, as well in regional meets until 1960. For three years there was no air racing in the USA until Nevada cattle rancher and World Unlimited Hydroplane champion Bill Stead decided to do something about it.



Sport Class racing at Reno

The National Championship Air Races, held in 1964 at Reno, was the re-birth of national-scope multi-class racing. It included cross-country and closed-course events for the Unlimited Class, and closed-course racing for the 190 Cu. In. Class and the new Sport Biplane Class for amateur-built single-seaters, and the Ladies Stock Plane Class for Piper Cherokees. Despite the crude facility and a lack of experience on the part of most of the organizers and officials, it was a success.

Attempts to copy Reno’s ideas were made all over the country: St. Petersburg, Florida; Lancaster, California; Mojave, California. All enjoyed brief runs, but lacked the financial base and the solid organization of Reno. The 2002 Reno Air Races—the 38th —included competition for six classes: Unlimited, Formula One, Sport Biplane, AT-6, Sport and Jet.

In Europe, there have always been insufficient funds to support such races. The Royal Aero Club of the UK run a series of small handicap races for any aircraft capable of flying at 100mph. These races are not well patronised and are not advertised to the public to any extent.

For two years, the European Sport Pilot Association ran international handicap events. These have now been suspended.

Various attempts have been made to re-launch Formula One events, again with little success. Reno Air Races still seem to attract a large crowd and seem to be going from strength to strength, while two new race events have been initiated, Red Bull Air Racing and the Aero GP. It remains to be seen whether these two new entries will stand the test of time.

Reno National Air Races



photo <http://krypton.mnsu.edu>

Bill Stead, a Nevada rancher, hydroplane racer, and World War II ace, in 1964 came up with the idea of reviving the National Air Races to help celebrate the centennial of Nevada's statehood.

He persuaded Reno businessmen to sponsor the races as part of a major air show that included the national aerobatics and balloon championships, skydiving competition, and a performance by the U.S. Air Force Thunderbirds. Stead also talked ABC Television into covering the races.

Competition was held at the Sky Ranch, where the runway was simply a 2,000-foot stretch of dirt. Pilots wanted to take off from Reno Municipal Airport, fly to the course, and return to the airport after racing, but Stead had guaranteed ABC that takeoffs and landings could be filmed at the ranch. He threatened to disqualify any flyer who didn't use the makeshift landing strip and the pilots reluctantly went along with it.

The opening event was the finish of a trans-continental race from St. Petersburg, Florida, to Reno. Over the next several days, closed-circuit races were held for five classes of planes: Unlimited, Formula One, Midget, Stearman, and Cherokee 180s with women pilots.

Because of Stead's experience with hydroplanes, the races used a scoring method borrowed from powerboat racing, with points awarded for a pilot's finishing position in each heat. In the Unlimited class, Bob Love finished first in the final heat, but the championship trophy went on points to Mira Slovak.

The points formula was discarded in 1965 in favour of a series of heats leading up to a final race for each class of planes, with the championship going to the winner of the final.

The races were staged at the Sky Ranch for the first two years. When Reno's Stead Air Force Base was closed in 1966, it was turned over to the city and renamed Stead Airfield, which has been the site of the Reno National Air Races ever since.

(Bill Stead was killed in a Formula One race in Florida shortly after the 1965 races. Ironically, Stead AFB was named for his brother, Croston Stead, who had been killed in a crash while flying with the Nevada National Guard.)

Classes of Competition

There's now competition in six classes:

- Unlimited** The Unlimited Class is open to any piston-driven aircraft with an empty weight greater than 4500 pounds [the weight restriction was added in 2005]. Aside from a very few "scratch-built" aircraft, the Unlimited Class has generally been populated by stock or modified WWII fighters, the most-often-flown types including the P-51 Mustang, F-8F Bearcat, and Hawker Sea Fury. Aircraft speeds in the Unlimited Class reach 500 mph.
- Formula One** Formula One aircraft are all powered by a Continental O-200 engine (the same 100 hp engine used in a Cessna 150). Weights and sizes of every major engine part must be within stock limits. The cam profile and carburetion are strictly controlled. Race aircraft must have 66 square feet of wing area, weigh at least 500 pounds empty, and have a fixed landing gear and fixed pitch propeller. The fastest Formula One aircraft reach almost 250 mph on the 3.12-mile race course at Reno. Many Formula One aircraft are built by the pilots that race them and are a relatively inexpensive way to enjoy the excitement and satisfaction of air racing.
- Biplanes** The Biplane Class is represented by small, aerobatic aircraft like the Pitts Special, the Mong, and the Smith Miniplane, giving pilots a chance to apply their skills to racing on a 3.18-mile course at speeds exceeding 200 mph.
- The T-6 Class features match racing between stock aircraft, including the original T-6 "Texan", the Canadian-built "Harvard", and the US Navy "SNJ" version aircraft.
- All of the T-6 variants are powered by the Pratt & Whitney Wasp R-1340-AN-1 air-cooled radial engine, which develops about 600 horsepower, and all have essentially the same airframe.
- T-6** Originally built by North American Aviation, the 15,495 aircraft that were manufactured over the life of the model served primarily as advanced trainers, helping pilots bridge between basic trainers and front-line tactical aircraft such as the P-51 Mustang.
- The fastest T-6 aircraft generally post race speeds into the 220-230 mph range on the 5.06-mile course at Reno. Because the aircraft are all of the same type, the T-6 class provides some of the most exciting racing at Reno, with an emphasis on strategy and pilot skill rather than raw horsepower.
- Sport class** The Sport Class highlights the new and innovative work being done in the development of high performance kit-built aircraft. Competition in the Class is fierce, with the rapid introduction of race-driven engine and airframe technology. Eligible aircraft include production model kit-built aircraft, of which 5 or more kits have been produced and delivered to customers by the manufacturer, powered by a reciprocating engine of 650 cubic inches or less. All aircraft must have a current FAA issued airworthiness certificate.
- Sport Class aircraft race on a 6.37-mile course at speeds reaching nearly 350 mph.
- Jet class** The Jet Class was inaugurated in 2002 as an invitation-only class, featuring match racing with Czech-built Aerovodochody L-39 "Albatros" jets, racing at speeds in the 400+ mph range. In 2004, sponsorship and interest had developed to the point where the Class was opened to participation by any qualified pilot and aircraft.

The races take place over a four-day period in September, from Thursday through Sunday, but time trials are held earlier in the week. Planes are assigned to heats based on their qualifying times and those with the eight fastest times in heat races move on to the "Gold" championship race on Sunday.

If the number of entries permits, there are two other championships in each class, the "Silver" and "Bronze" races, each with eight planes, based on their times in heats.

The closed-circuit course is a little over 9 miles long. Since speeds approach 500 miles an hour in the Unlimited class, it takes a little more than a minute for a plane to negotiate one lap, and all the action is in clear view of spectators. The Unlimited "Gold" championship race is usually flown over eight laps, the "Silver" race over eight laps, and the "Bronze" race over six laps.

About 150,000 spectators turn out over the four-day period. In addition to racing, they get to see exhibitions of aerobatics, stunt flying, and skydiving, as well as flyovers and demonstrations by military teams.

Unlimited Champions

Year	Winner	Speed
1964	Mira Slovak	355.52 mph
(NOTE: Bob Love averaged 366.82 mph but Slovak won on points.)		
1965	Darryl Greenamyer	375.1 mph
1966	Darryl Greenamyer	396.221 mph
1967	Darryl Greenamyer	392.621 mph
1968	Darryl Greenamyer	388.654 mph
1969	Darryl Greenamyer	412.631 mph
1970	Clay Lacy	387.342 mph
1971	Darryl Greenamyer	413.987 mph
1972	Gunther Balz	416.160 mph
1973	Lyle Shelton	428.155 mph
1974	Ken Burnstine	381.482 mph
1975	Lyle Shelton	429.916 mph
1976	Lefty Gardner	379.610 mph
1977	Darryl Greenamyer	430.703 mph
1978	Steve Hinton	415.457 mph
1979	John Crocker	422.302 mph
1980	Roy "Mac" McClain	433.010 mph
1981	Skip Holm	431.288 mph
1982	Ron Hevle	405.092 mph
1983	Neil Anderson	425.242 mph
1984	Skip Holm	437.621 mph

1985	Steve Hinton	438.186 mph
1986	Rick Brickert	434.488 mph
1987	Bill Destefani	452.559 mph
1988	Lyle Shelton	456.821 mph
1989	Lyle Shelton	450.910 mph
1990	Lyle Shelton	468.620 mph
1991	Lyle Shelton	481.618 mph
1992	Bill Destefani	450.835 mph
1993	Bill Destefani	455.38 mph
1994	John Penney	424.407 mph
1995	Bill Destefani	467.029 mph
1996	Bill Destefani	467.948 mph
1997	Bill Destefani	453.130 mph
1998	Howard Pardue	366.5690
1999	Bruce Lockwood	472.332 mph
2000	Skip Holm	441.2970 mph
2001	Not held (09/11)	
2002	Skip Holm	466.834
2003	Skip Holm	480.415

Formula One Air Racing



The Formula One racing class is without question the most successful class in the 86-year history of airplane racing. It has seen more races, more pilots and more airplanes than all other racing classes combined in a half-century lifetime, and has experienced but one important change in its rules in all that time. Moreover, it is the only formal air racing class to be exported from the U. S. to Europe, and the only class to be recognized by the International Aeronautics Federation (FAI), the world governing body for competitive aviation.

As a specified class it had its inception in the concerns of many wiser heads in the air racing community in the latter years of the "golden age" of American air racing prior to World War II. The excessive costs that were diminishing competition and an unacceptable accident rate were threatening to strangle the sport.

But the dreams of a practical, safe racing class of small planes powered by inexpensive and reliable engines wouldn't go away ... but alas, they remained nothing more than dreams until the autumn of 1939 when, on September 24th, the New York Times reported that the National Aeronautics Association Technical Committee had an interest in midget racers. It was not until the immediate post-war years however, that any serious planning for the development of the class was accomplished.

In October 1946 the Professional Race Pilots Association completed work on specifications for the 190 cubic inch engine displacement class, and that organization formally accepted the specifications on December 3rd. Fifteen days later the NAA Contest Board approved the PRPA specifications and the new class was born.

On January 12, 1947 the new class was given a significant boost when the Goodyear Aircraft, Corporation announced sponsorship of three annual trophy races in the new class with \$25,000 purses, with the first to be held at Cleveland the following September.

By midsummer a number of the new breed of aircraft were under construction and the first one flew on July 4th. Twenty-one of these new midget racers were formally entered in that first Goodyear trophy race, fifteen actually appeared at Cleveland and twelve completed qualifying tests and time trials. That first race meet was a notable success with eight exciting and accident free races over a three day period.... setting the tone for the years to follow.

The specifications which established among their rigid compliance requirements a maximum engine size of 190 cubic inch displacement worked well for a number of years. The Continental four cylinder air cooled engine of 188 cubic inches displacement was the one dominant engine of the day with a reputation for reliability in the American small plane market. It was rated at 85 horsepower, was economical and was readily available ... and thus became the standard powerplant of this racing class.

However with the passage of years, the Continental C-85 engine went out of production and with their ever-limiting availability by the mid-'60's, it became necessary to amend the specifications for the class and permit use of the newer and slightly larger piston displacement engines of 200 cubic inches. This was done on January 1, 1968, and the 190 Cubic Inch Class officially became the Formula One Class. It is interesting to note that this has been the only significant change to the specifications for the class in its 50 year history.

Performance increases which had been steady but un-dramatic now accelerated significantly, though not solely as a result of the slightly larger engines and the new and improved aircraft designs and materials for their construction. New race courses were generally larger and uniformly of six pylon configuration which made turns at the pylons less stressful on both pilot and plane...and less hazardous.

A six-pylon race course was nothing new. One of such configuration had been first used at Istres, France successfully in 1923. At that first Goodyear meet in Cleveland in 1947, the NAA Contest Board originally approved a three pylon course with unusually sharp 60' turns at all three pylons. But at the insistence of PRPA president, veteran racer Art Chester, who adamantly sought safer course

layouts, it was redesigned, but only to a four pylon layout. Ironically, a six pylon course was not to be used until May 1949 at Newhall, California as a result of the tragic deaths of Chester and another pilot on a four pylon course at San Diego two weeks earlier.

Formula One racing became something of an all-American spectator sport. Races were held in both large and small venues from coast to coast and interest among aviation enthusiasts was high. But it remained uniquely an American sport until the first of the European races under Formula One rules was flown by the British at Jurby, Isle of Man in 1970, and to date the Europeans (primarily the British and the French) have flown 126 race meets in 5 countries; and in 1976 the French held the first truly international event of significance, the 1976 International Grand Prix at Le Castellet, France with planes and pilots from three nations participating. Subsequently, British crews and planes competed in U. S. races in 1983 and 1987.

Although raceplane performance improved remarkably over the sport's first 21 years, it was not totally unexpected given the more favourable factors that emerged with the passage of time. The average speed of the ten fastest qualifiers rose 30% between the first race meet and the last meet with the 190 cubic inch engines twenty years later. In the next twenty years, that figure had risen to 57% with the amended specifications, improved aircraft designs which took advantage of improved technology, and larger and better configured race courses. And even more dramatic increases in performance have been recorded in the past few years. At the latest meet in 1996, the top qualifying speed was over 100 miles per hour faster than that of the top qualifier at that inaugural race in 1947 ... and with an engine with but 5% greater displacement.

In the fifty year lifespan of this racing class, over 200 aircraft have raced in 782 U. S. races in 177 race meets (through the 1996 racing season) from coast to coast and in Mexico and Canada, and the number of existing and under-construction planes is at an all-time high. The current group of Formula One racing pilots is more experienced than ever before with most of them flying regularly in other segments of the aviation world.. . as airline pilots, corporate pilots, charter pilots,. FAA check pilots, military pilots, agriculture pilots and instructors. Four aging veterans in their mid-'70's, one of whom is commencing his 50th year of racing in this class. . a remarkable achievement not likely to be equalled.

New and technologically advanced planes are now racing and new ones are appearing with each new racing season to challenge the leaders in this one-of-a-kind sport; a sport that gives promise of a bright future as it wings optimistically into its sixth decade.

Sport class air racing



In recent years, the performance of some experimental home-built aircraft has begun to equal some of the fastest piston engine aircraft ever built. Without the onerous restrictions of having to certify the aircraft, development of airframe and engine design proceeds at a very fast pace and competition in this class is very fierce. To qualify, five kits need to have been sold to customers. Piston engines must not exceed 650 cubic inches. Aircraft must have a valid FAA issued airworthiness certificate.

Sport Class aircraft race on a roughly circular course at speeds of over 300 mph. They take off about ten to fifteen minutes before the race start, and follow the pace aircraft which flies in a sweeping left turn towards Peavine, the large mountain south of Reno Stead Field. Over Peavine heading roughly eastbound, the aircraft and formate.



Lancair 4 approaching a pylon

Once the pace aircraft pilot is comfortable that the formation is in a good position to start, he makes the call, "Gentlemen, you have a race!" and pulls the pace aircraft into a climbing left turn, separating from the formation. For the remainder of the race, the pace aircraft generally circles well above the racers unless needed to assist if trouble arises.



a Glasair 3 in the hanger



Lancair at full chat

A typical Sport Class race typically takes from seven to ten minutes depending on the number of laps in the race and the speed of the aircraft.

Red Bull Air Racing



Now, there is something new in air racing. The Red Bull Air Race World Series is as different from conventional air racing as Formula One is from NASCAR. Sponsored by Red Bull Energy Drinks, the series was introduced in Europe in 2003 with only a half-dozen competitors, but it was remarkably successful.



A product of the fertile imagination of aerobatic pilot Peter Besenyei, the Red Bull Air Race is different from anything you've seen before. In keeping with the vertical and inverted nature of aerobatic flying, three-time world aerobatic champion Besenyei reasoned that airplane racing should be more of a three-dimensional sport, and accordingly, the Red Bull races are a cross between high-G, low-level, air-show manoeuvres and conventional, closed-course pylon racing.

Pilots fly individually against the clock on a tight, 2,000-meter course that keeps most of the action directly in front of the crowd rather than several miles away. Competitors must fly a specific attitude (usually knife-edge or straight-and-level) between five sets of inflated pylon gates that stand only 60 feet tall, meanwhile manoeuvring through a slalom-style course. Distance between the twin rubber

cones that comprise each gate varies from 33 to 45 feet, depending upon the difficulty of the entry and exit manoeuvres. Despite the tight course, racers typically reach speeds as high as 250 mph on some diving recoveries. Turns between pylons can be so tight that they demand an up-and-over in order to make the radius to the next pylon gate.

Pilots not only must navigate the course between pylon pairs in minimum time, they're required to execute specific manoeuvres during the flight, usually a four-point roll, a two-of-four-point vertical roll, two low-level knife-edge passes in opposite directions between two pylons and a 1¼ vertical roll-up followed immediately by a touch-and-go landing on a specified section of adjacent runway. The latter sounds almost impossible out of a near-vertical dive, so Besenyei made it even tougher. To compound the difficulty, the runway touchdown mat is only 39 feet long, and penalties are assessed if the aircraft touches ground outside the centre 12-foot target zone.

There are three possible flight plans for the course to keep things challenging for the racers and interesting for spectators. All use the same basic plan form, but specify different manoeuvres in varied sequences. Time penalties of two, five or 10 seconds are assessed for flying too high through the pylons, any in-complete or missed manoeuvre, missing or touching a pylon and failing to touch down inside the designated zone on the touch-and-go. To be competitive, a racer must fly the course clean, with no deductions. In a recent competition, the winning margin was only .03 seconds.

(Interestingly, one cause for total disqualification is "hitting an obstacle with one's propeller." This has happened several times, fortunately, with no consequence worse than a bruised ego. Pylons are made of thin rubber designed to disintegrate on contact. So while a collision may be temporarily disorienting, it'll simply destroy the pylon, not the airplane.)

Unlike standard, closed-course pylon racing where virtually any decent pilot with a penchant for speed, reasonable formation skills and enough money to afford a race plane can compete, Red Bull racing demands expert aerobatic skills plus a fast, highly manoeuvrable airplane and a willingness to fly close to the edge. By definition, all competitors must be comfortable flying their aircraft to the limits of the performance and control envelope, a special skill confined to a select group of aviators and a special type of airplane.

Red Bull kicked off the series in 2003 with two events, one in Austria and the other in Peter Besenyei's home country of Hungary. In 2004, the schedule included three races, two in Europe and the third in the U.S. The first of the 2004 events was held in June at Kemble Air Day in Gloucestershire, U.K., the second in August at Budapest, Hungary. The latter race attracted several hundred thousand fans who lined the banks of Budapest's Danube River to witness a wild race on a course that demanded a flight beneath the city's famous Chain Bridge. (Imagine trying to get the UK CAA to approve that.)

The final race of the season was held in conjunction with the world's premier racing venue, the 41st Annual National Championship Air Races in Reno, Nev. Eight pilots flew in each of the competitions, and the Red Bull Air Race World Series Championship was decided at the Reno event.

The eight pilots who were invited to compete for the top prize at Reno included some of the best aviators from the U.S. and Europe. All are former or current national or world aerobatic champions or established air-show performers.

Predictably, the pilots fly some of the world's most agile high-performance aerobatic mounts. The French CAP 232 is a dedicated aerobatic airplane that has carried its pilots to more world medals than any other type. Walter Extra's remarkable German Extra 300 is a total favourite of air-show

performers around the world, and they include U.S. Aerobatic Champion Patty Wag-staff. The Russian Sukhoi has been a star on the aerobatic circuit for years, both in its initial SU-26 and later SU-31 versions. Perhaps the most popular of the Red Bull aircraft, however, is the Edge 540, an all-American product.

more information is available on the [Red Bull website](#)



Aero GP



Another new air racing initiative called the Aero GP has just begun. Here at least the aircraft race together on a figure of eight racecourse, (sounds very scary) but the organisers still feel it necessary for the competitors to perform 'tricks' such as flour bombing at the same time. It remains to be seen whether two new series will remain viable. We include a copy of the press release for your interest.

PRESS RELEASE

- WORLD PREMIER BROADCAST OF NEW AIR RACE SERIES -

Including competitive target bombing and air combat heats!

Immediate Release - 12 October 2005

The world premier TV broadcast of the new Aero GP series, which Reuters referred to as “aviation’s equivalent to Formula One,” is being broadcast on Sky Sports at 6:00 PM on 25th October (see below for more times). The Aero GP is the newest and most exciting motor sport in the world, with airplanes racing faster than a Formula One car – all together at the same time in a tight figure-8 circuit – just a few metres off the ground. The pilots also compete in real target bombing and air to air combat heats – all competitive and all broadcast on worldwide television.

The TV programme is presented by famous lead singer of legendary rock band Iron Maiden, Bruce Dickinson, who is also an experienced pilot. Further commentary is provided by Martin Haven, a popular motor sports commentator. Among the top pilots competing this year are two Brits.

This first event that Sky is broadcasting covers the Slovenia Grand Prix, where the inaugural Aero GP competition was held this year with great success and a huge amount of global media coverage. The broadcast of this Slovenia Grand Prix is available in more than 40 countries; and next year’s series will be available in almost all countries in the world.

The first full annual international Aero GP series is set to launch in 2006 stopping at seven exciting venues around the world (to be announced soon). More info is available at: .

SKY SPORTS – AERO GP BROADCAST TIMES:

25 October - Tuesday 18:00 and 24:00 (Sky Sports 2)
26 October - Wednesday 09:30 and 15:00 (Sky Sports 2)
29 October - Saturday 05:30 (Sky Sports Extra)
30 October - Sunday 16:00 (Sky Sports 3)

These are select times. The Aero GP will be broadcast across all Sky Sports channels at other times too; and is being broadcast on many different TV channels around the world.