

Argentine Civil Aircraft

Part 4

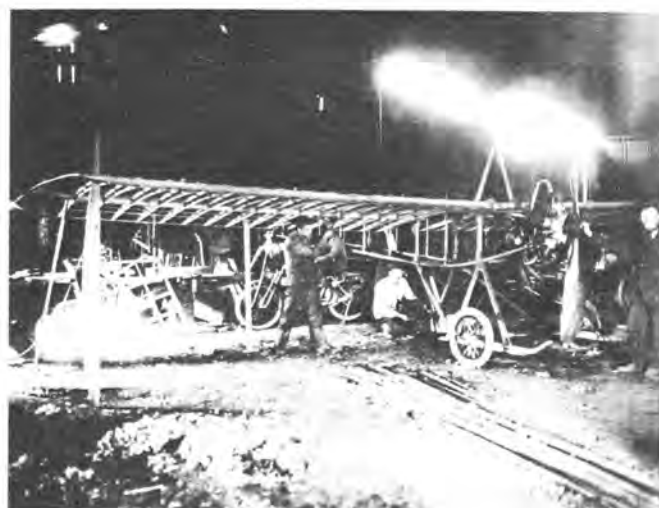
By (the late) FEDERICO A. GIRO and ANTONIO M. BIEDMA R.

The Summer 1967 JOURNAL began the first of a five-part series on Argentine Civil Aircraft. The series constitutes the only articles published outside of Argentina covering aircraft of original Argentine design, and describes civil airplanes only, not including lighter-than-air or gliders.

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Federico Alberto Giro, an ardent aviation enthusiast, was the Flying Review International correspondent for Argentina and A.A.H.S. member since 1957. The present series of articles was completed by him, with Mr. Biedma in 1966. They will be concluded in the Fall JOURNAL.

(All photos by authors.)



At left, the Libossart "Pellegrini," named for the Argentine city, by the builder, in 1914. Above, the wooden framework in final assembly.



Libossart "Pellegrini" - Enthused by the demonstration flights of Pablo Castaibert at the city of Pellegrini, (Province of Buenos Aires) in May 1912, Pablo Libossart studied the possibility of building an aircraft of his own conception at his mechanical workshop. After great economical difficulties, the Swiss-born mechanist completed his monoplane at the end of 1914. He moved his plane to a field owned by the brothers Druille, which gave him access to a small hangar and a track to make the experiences. So, as with Borello and Castaibert, Libossart had to teach himself to fly, based only on some French monographies. Due to the good flying characteristics of his machine, slowly, and one by one, he discovered all the mysteries of piloting, verifying the excellent hand-

ling qualities of the plane he conceived. The engine was the only problem he had to encounter. It was an old, used 35 hp Anzani three-cylinder, which could not be run more than fifteen minutes at a time. In February 1915, Libossart went to Buenos Aires in search of a 50 hp engine. He purchased a fixed Anzani, the only one of its kind in Argentina. He installed the new engine and began his flying trials, with the objective of flying from Pellegrini to San Fernando Airport, near the capital, to take his examination for the international license granted by the Aero Club Argentino. On September 23, 1915, due to unknown reasons, his plane crashed and he died.

This monoplane was totally constructed of wood. The wings were of cuadrangular planform, and lateral control was obtained by warping of the wings. The fuselage was fabric covered. A two-wheel main landing gear was adopted and mounted on a simple wooden strug and skid arrangement. No further details are available.

Mantelli AM-10 and AM-11 "Albatross" - These two airplanes were built in Argentina in 1951 by Colonel Adriano Mantelli, at that time residing at Buenos Aires. But as those machines derived from previous designs of the Italian builder, and are in consequence not entirely indigenous, they are not treated in this article.



Marichal "Estudiantil" - Mr. Edmundo Marichal was the first foreigner established in Argentina especially for commercial aviation purposes. He came from the Farman Works in France in 1911. Marichal was a Chilean, born at La Serena on March 28, 1880. He established his works in a shed at Palermo in Buenos Aires. His first products were some Henry Farman biplanes powered by 50 hp Gnôme Rhône engines. He rapidly obtained a good reputation for perfection in his planes. He became the only supplier of airplanes in those first years of aviation in Argentina. When the military schools of aviation were established in Argentina and Uruguay, the Marichal Works supplied the biplanes used for flight instructions. Because of the pilots' preference for Bleriot monoplanes, Marichal extended his lines of production to build this type of aeroplane as well. He introduced some modifications to the landing gear for ease of maintenance, however.

He decided to design his own monoplane. It was bought by the "Comisión Pro Aeroplano Estudiantil," formed by the high school students of Buenos Aires for the purpose of donating a plane to the recently established Military Aviation School at El Palomar.

Author Antonio M. Biedma R. functioned on this committee, representing students of the Colegio Nacional Buenos Aires.

On June 15, 1913 the airplane was officially handed over to the "Escuela de Aviación Militar." Some time later, on November 21, it was totally destroyed in the first aerial collision experienced in Argentina; happily, without personal consequences.

On February 5, 1915, Marichal established the Quilmes Airport in inauguration ceremonies. Together with several workshops, the airport had a flying school where Marichal worked to complete his flying education. (All that he knew was obtained without any previous instruction.) June 15, 1913, he delivered his "Estudiantil" plane to El Palomar. On February 9, 1914, at Villa Lugano airport, he made two flights in a Farman biplane which recently came out of production. On August 23, 1917, he obtained International License No. 131, granted by the Aero Club Argentino. Due to the war, it was hard to keep his factory doors open for the lack of supplies. So Marichal closed the works and went to France. Once the war was over, Marichal returned to Argentina, but did not reopen his establishment due to economical difficulties. The Marichal monoplane was of straight-forward construction, its wooden airframe covered with fabric. Warping was used on the wings, and the tail unit was comprised of a rudder and elevators. The cockpit had aluminum coverings. His power plant was an 35 hp Anzani three-cylinder engine. Specifica-

tions: span 8.90 m. (29 ft. 2 in.); length: 7.65 m. (25 ft. 2 in.); height: 2.40 m. (7 ft. 10-1/2 in.); wing surface: 18.00 m² (193.68 sq. ft.); chord: 2.10 m. (6 ft. 10-1/2 in.); empty weight: 220 kg. (485 lbs.); useful load: 113 kg. (249 lbs); total weight: 333 kg. (734 lbs.); cruising speed: 80 km/h (50 m.p.h.); minimum speed: 60 km/h (37 m.p.h.); climbing to 1.000 m. (3280 ft.) in 10 minutes; ceiling: 2.000 m. (6561 ft.); endurance: one hour.



Mira "Golondrina I" (Swallow) - Virgilio Mira received his wings on May 12, 1915 at the San Fernando Flying School, flew in H. Farman biplanes which were powered by 50 hp Gnômes. His license bore the number 77. He was born in Italy, in 1890, but arrived in Argentina while still a child. His parents settled in the town of Mackenna, in the province of Cordoba. Several times after he received his pilot's license, he found himself unable to fly due to the lack of planes--a result of the European war. Mira couldn't remain in Argentina without flying, so he decided to construct his own flying machine. After an intensive search, he found an old 50 hp Gnôme bearing "const. No. 248," and having no less than six years of use. With a few "pesos," he also bought an old Bleriot monoplane fuselage, and positioned himself at the workshop of San Fernando airport. When the plane was finished it was no longer a Bleriot, due to the intense modifications introduced by Mira by reason of the lack of some standard parts for the skeleton he bought. Eager to fly it, he entered an aviation meeting held at the "Sociedad Sportiva Argentina" at Palermo in Buenos Aires city. He flew from San Fernando to Buenos Aires, landing in the stadium of the sporting society. This was the first flight of the Golondrina I and Mira's first flight in a monoplane. On August 11, 1915, he started a tour through several Argentine provinces. Three months later he crashed the plane while taking off, due to an engine failure. The time had come for Mira to build a new airplane, this time following strictly his own designs.



Mira's GOLONDRINA II, shown here in two views (left column), proved to be exceptionally durable, and the pilot flew it for five years. The follow-on GOLONDRINA III, (right column) vastly modified, was a maintenance man's dream.



Mira "Golondrina II"-- Some parts of the "Golondrina I" were used in order to speed construction, but always using accurate drawings of his own. After some months of work, finally on March 6, 1916, he decided to fly, despite heavy winds. Mira flew his aircraft with complete control. The plane appeared to be a proved and well-tried monoplane. The next day, tests were completed. Acrobatic manoeuvres here held, including seven loopings, eight corkscrews to left and right, one "S" and a "fall of tail" that completed the session. The aircraft supported the strongest stresses and pressures. Without doubt, here was an exceptional pilot with a machine of wonderful flying abilities, perhaps better than the other planes developed up to then. With his "Golondrina II," Mira, during five long years, covered the whole republic, flying wherever he was asked for. During all this flying, he detected the need for some new modifications, and decided to build a new airplane.



Mira "Golondrina III" - This two-seater monoplane, built at the beginning of 1922, embraced all the modifications Mira thought necessary. A simple system of verifying the vital parts was incorporated and, also, an easier and quicker assembling procedure was provided. He designed, also, his own concept, a system for the installation and regulation of the wings in only six minutes. He "suppressed" bridges and swing bars, reduced all tail surfaces to a balanced elevator, balanced the rudder, suppressed the vertical fin, made the tail skid adjustable and saw to it that no more holes were needed on spars, longerons and cross-bars. Also he modified his old Gnome Number 248, built in 1909. He flew with this engine through 1937, twenty-eight years after it left the French factory! The wings of the "Golondrina III" were of horizontal trapezoidal projections, containing two ash tree spars and pine ribs. Warping reached 73 cm (2 ft. 5 in.) and incidence with fuselage was 8 degrees. The fuselage, of cuadrangular section, was also built of ash tree wood.

With this plane, Mira accomplished wonders. He was considered the best pilot with the best machine of the time, a perfect harmony of man and engine. In 1919, he covered without support the distance from Buenos Aires to Mackenna in Cordoba (340 miles). His landings to a halt were made in less than 20 m. (65 ft. 7 in.) and his take-offs in 30 m. (98. ft. 5 in.); his climbs to 1,000 m. (3,280 ft.) in less than ten minutes. He stunted with two passengers in a two-seater. He made countless nocturnal flights during 1920 to 1922 over Buenos Aires and several crossings of the River Plate to Montevideo, 220 km. (137 miles) over water. These were common flights by this man!





Mira's GOLONDRINA III, a winner of races up to 1928.

Mira did not accept his defeat, and built his last plane--"Golondrina III." Specifications: power plant: a 50 hp Gnome engine driving a tractor propeller; span: 9.80 m. (32 ft. 1-3/4 in.) length: 6.10 m. (19 ft. 11-7/8 in.); height: 2.10 m. (6 ft. 10-1/2 in.); wing surface: 18.00 m² (193.68 sq. ft.); empty weight: 235 kg. (516 lbs.); useful load: 220 kg. (485 lbs.); total weight: 455 kg. (1,001 lbs.); cruising speed: 115 km/h (71 mph); minimum speed: 45 km/h (28 mph); landing speed: 35 km/h (21 mph); climb to 500 m. (1640 ft.) in 4 minutes; ceiling: 3,300 m. (10826 ft.); endurance: 5 hours.

The "Golondrina" *always* won, in every competition in which it was entered, regardless of the machine against which it was competing. Mira won the 1922 race to Mar del Plata, and the Strand Circuit of the same year. In 1925, he won the Curtiss Cup organised by the Centro de Aviacion Civil, and in 1926 the Castelar Cup. In 1928, he won the Wright Cup, sponsored by Aero Club Argentino. In 1922, Mira intended to establish a factory in order to build his "Golondrina III" for commercial use. But he failed, as by then, the new machines began to arrive in Buenos Aires from Europe and the United States--being no match to the old "Golondrina"

The Golondrina IV, last flown in 1937.



Mira "Golondrina IV" - This was a three-seater monoplane driven by an 80 hp Le Rhône engine. Warping was replaced by ailerons, for the first time, but construction was similar to the previous machine. Its specifications were as follows: span: 8.80 m. (28 ft. 10-1/2 in.); chord: 2.00 m. (6 ft. 6-1/2 in.); length: 6.00 m. (19 ft. 8 in.); height: 2.20 m. (7 ft. 2-1/2 in.); empty weight: 280 kg. (617 lbs.); cruising speed: 160 km/h (99 mph); landing speed: 50 km/h (31 mph); endurance: 4 hours. In 1926, this new airplane was finished and trials begun. After some time, and when tests were still to be conducted, the government issued a new regulation stating that all aircraft, in order to fly, had to be registered by their final flight certificate issued by the country of origin; and, in the case of indigenous aircraft, a complete file of all technical references, drawings, and test results were to be presented.

Mira lacked all that was asked for, and a certificate of navigation was denied him, in spite of the twenty years of constant flight in airplanes of his own design. He had to immobilize his "Golondrina" and continue his flying activities with other planes.

On July 3, 1937, paying homage to Jorge Newbery, national flying hero and founder in 1908 of the Aero Club Argentino, Mira flew his "Golondrina IV" for the last time. In so doing he closed in a befitting manner a whole chapter of the Argentine conquest of the sky.



This monoplane, Noni (Bleriot Type), was powered by a 50 hp LeRhône-Marichal engine.

Noni (Bleriot type) -Gerardo J. Noni worked since 1912 under the direction of Mr. Edmundo Marichal at the Marichal works in Buenos Aires. Also, he acquired his flying training at the flying school taught by Marcel Paillette, in which he helped the construction of three Farman biplanes. He established his own works, and from 1914 to 1917, built monoplanes and biplanes that wore his name. He built and sold 14 one-seater monoplanes and two two-seater biplanes. The monoplanes were powered by 50 hp Le Rhône-Marichal engines. Built in Argentina under Le Rhône license, they were capable of handling acrobatics flights. The Noni monoplane had a straight-forward construction with a wooden airframe. Fabric covered the wings and the forward portion of the fuselage. Warping was used on wings, and the tail consisted of a one piece rudder and elevators with fixed tailplanes. No skids were provided on the undercarriage.

Specifications: span: 8.60 m. (28.ft. 3 in.); length: 6.00 m. (19 ft. 8 in.); height: 2.60 m. (8 ft. 7 in.) empty weight: 340 kgs. (750 lbs.); airscrew diameter: 2.40 m. (7 ft. 10-1/2 in.); max. speed: 120 km/h. (74 mph); take-off run: 15 m. (49 ft. 2-1/2 in.)



The Farman type Noni, with a 50 hp Gnome engine.

Noni (Farman Type) - This product was based on the Henri Farman pusher biplane. It was fitted with a 50 hp Gnome engine. The type proved to be successful. It had a wooden structure and fabric covered wings and surfaces, ailerons on both wings, nose elevator on booms. It had a high landing gear with four wheels. Specifications: span: 16.00 m. (52 ft. 6 in.); length: 13.50 m. (44 ft. 4 in.); height: 3.50 m. (11 ft. 5-3/4 in.); empty weight: 350 kg. (772 lbs.); airscrew diameter: 2.60 m. (8 ft. 7 in.); max. speed: 85 km/h (52 mph); take-off run: 35m. (114 ft. 7 in.).

Ojea "51 Argentino" - This was a cargo glider for transport developed in 1943. By that time, aeronautical engineer Emilio Alvarez Ojea, Director of the then "Escuela Pan American de Aviacion," was working in a light bomber project, but due to the recommendations of Chief of Airtransported Troop Battalion, he changed to the glider project.

Calculations covered the transport of 20 soldiers, completely equipped including spare ammunition. After one year and seven months of work, the project was completed. It was a high-wing monoplane, with a rectangular central section wing with trapezoidal extremes. Total weight should be of 3,400 kg (7,497 lbs.) and the useful load of 2,000 kg. (4,410 lbs.). But after all the hard work involved, this project was not taken into consideration by the aeronautical authorities. The Instituto Aero-técnico at Córdoba had just begun work on a glider, the I. Ae. 25 "Mañque," which was also a troop and cargo transport.

Prior to this design, Emilio A. Ojea, with

The Rasmussen 1910



the collaboration of Mr. Guillaumont, built a Henri Mignet "Pou-du-Ciel" to which he introduced some modifications.

Rasmussen 1910 - At the city of Bahia Blanca, mechanist Cristian Rasmussen, inspired by the principle of pendular stability, designed and built a very curious monoplane, half-parasol and half-flying wing.

Power was supplied by a 50 hp rotative Gnome engine, driving a two-bladed pusher airscrew. A metal structure formed by four triangles supported the wing, from the bottom of this structure two big arches held on its ends the four wheels. The fuel tank was suspended from the triangular structure between the engine and the pilot's seat, supplying fuel to the engine by gravity feed. In front of the pilot, two curved booms held the horizontal stabilizer. A rudder was situated aft of the engine, very close to the wing.

No records registering if the plane succeeded in flying were available, but newspapers from Rasmussen's town stated that the constructor expected to reach, with this craft, 120 km/h (74 mph) and that the useful load was 100 kilos (220 lbs.).

Salino Monoplane - This was a little machine on the style of the Santos Dumont Demoiselle, built at the town of Rio Cuarto, Córdoba at the end of 1914 by three youngsters: Mr. Pedro Salino, who was a motorcycle runner and founder of the "Primer Club Ciclista" in Rio Cuarto; Mr. Fernando Fiat, of French origin, was a mechanist, and Mr. Carlos Ragot, who helped with the financial part. The aeroplane was provided with a 25 hp Anzani, three-cylinder engine. Records only state that the plane was flown several times, but no other specifications are available.



A 35 hp Anzani powered this Santoro 1917.

Santoro 1917 - Built by Mr. Aurelio Santoro in the vicinity of General Pico (Bs.As. province), in 1917, this aircraft was a monoplane using the warping system in order to obtain the lateral stability control.

It had a wooden structure and fabric coverings. The tail consisted of an all-flying rudder and unbalanced elevators; no vertical fin was provided.

The engine was an old 35 hp Anzani which drove a big wooden propeller. The landing gear consisted of two wheels.

No further information is available, including whether or not the plane was actually flown.