

Curtiss Falcon in Brazil

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In 1932, South America was the stage for two conflicts with effective use of aviation as a military weapon: the *Gran Chaco War*, involving Bolivia and Paraguay, and the *Constitutionalist Revolution* in Brazil. The latter was a struggle of just two Brazilian States against an entire nation, but the main insurgent state was São Paulo, by then already an industrial and agricultural force to be reckoned with, one which proved able to sustain the battle for three long, bloody months (1). Eventually the *Constitutionalists* were defeated by the Federal Government, then based in Rio de Janeiro, after fierce fighting and the loss of many lives.

In July of that year, as soon as the insurgency began, one of the main concerns of the Constitutionalist forces was to be able to gather enough weaponry and ammunition to face the Federal troops. Industries located in São Paulo began the production of ammunition and also designed and manufactured armament such as armored trains and combat vehicles, light weapons, etc. However, there was no infrastructure for aircraft manufacturing. Aware of the need to stop the São Paulo industrial force in its tracks, Federal troops carried out aerial bombing operations over energy transformation plants located in that state. On the other hand, the Constitutionlists thought of offsetting the scarcity of pieces of artillery with aircraft, but the small number of available airframes forced them to fly too many missions over diverse fronts simultaneously, leading them to rapid wear and tear.

Air Order of Battle

The Federal Government air force comprised the *Aviação Militar do Exército* (Army Military Aviation) and *Aviação Naval da Marinha* (Naval Aviation). Together they numbered many airframes (the Army over 130, the Navy at least 75), but only a few were suitable for combat and their level of readiness was low. Of those, the following aircraft did take an active role in combat operations: The Army Military Aviation had a single Nieuport NiD72C.1 Delage fighter, two Amiot 122Bp.3 bombers, nine Potez 25 TOE attack-and-observation aircraft, four De Havilland DH60T Moth trainers and three Waco CSO armed trainers. The Naval Aviation, on its part, participated with six Vought O2U-2A Corsair attack-and-observation aircraft, seven Savoia-Marchetti S.55A patrol bomber seaplanes (from the original eleven brought in the previous year by Italian airman Italo Balbo), three Martin PM-1B patrol bomber seaplanes, three De Havilland DH60 Moth trainers and two Avro 504N trainers.

The opposition, the *Aviação Constitucionalista* (Constitutionalist Aviation), was created on 15 July 1932 under the command of Major Lysias

Augusto Rodrigues, and included two Potez 25 TOE attack-and-observation aircraft (respectively serials A-116 and A-212), two Waco 225 trainers equipped with bomb racks (serials C-2 and C-3, both seized from Federal forces) and a hodgepodge of civil aircraft requested from private owners and airclubs, with next-to-nil combat ability. In the first days of the upheaval, two other aircraft joined the Constitutionalists, a Waco CSO armed trainer and a Nieuport NiD-72C.1 Delage (serial K-421) sesquiplane fighter. Both were brought in by two dissident officers, Lt. Arthur Motta Lima and Cap. Adherbal da Costa Oliveira.

Purchases

Soon aviation proved an essential asset to both contenders: Although the airplanes' ability to hit their target was questionable, their psychological effect on enemy ground troops was devastating. The need to acquire new aircraft had both sides procuring suppliers abroad.

The Federal Government went first to France, at the time the main supplier of military equipment to Brazil, due to the *Mission Militaire Française* (French Military Mission), responsible not only for the main weaponry used in Brazil but also for the country's own military doctrine and philosophy. A batch of ammunition was ordered against a total payment of 18 million francs. However, the French Government, under the pretext of "humanitarian duty", refused to honor the transaction, frustrating all the efforts of the Brazilian diplomatic corps. Not only the deal was called off, but the return of the already delivered payment was long delayed. This might be the reason why, since that date, Brazil ceased procuring armament from the French, particularly aircraft – a stance that would finally change only in the 1970s, with the acquisition of Mirage III fighters.

The second option of the Vargas regime was the United States, who supplied military matériel to Brazil through the import dealership of *Casa Mayrink Veiga S.A.* Having just come out of the 1929 crisis, the U.S. did not hesitate in accommodating, and approved the purchase of at least 200 aircraft such as the Waco CSO, Waco CTO, Waco RNF, Bellanca Pacemaker, Vought V-65B/V-66B Corsair and the then state-of-the-art Boeing 256, which were acquired by Brazil even before they entered service with the U.S. Navy and the Marine Corps as the F4B-4.

While in this shopping spree, the Federal Government used all its diplomatic channels to prevent at all costs the possibility of some foreign country supplying weapons to the insurgents – who desperately wanted both equipment and fuel, especially for aircraft. Despite the strong presence of immigrants from Italy and Spain and their descendants in São Paulo, the Constitutionalists could only resort to neighboring countries, since the port of Santos was under a naval blockade and the aforementioned nations were unreachable. One of the few bargaining tools the state of São Paulo had was coffee, which could be exchanged for weapons – so that commodity ended up exported by waterways and roads to Paraguay through Mato Grosso (the other Constitutionalist State). São Paulo sent many emissaries to Paraguay and Argentina trying to strike a deal, but to no avail, since Paraguay itself was at war with Bolivia, and Argentina had little to offer. In any case, the high command of the Constitutionalist forces had, as its purchase agents in Argentina, multi-business entrepreneur Alberto J. Byington Jr. and aviator Lt. Orsini Coriolano de Araújo.



*A Chile-assembled Curtiss Falcon, sporting the colors of the Aviación Militar del Chile.
(Photo: Cláudio Cáceres Godoy Collection.)*

The Falcon with the Constitutionalists

In 1930, following a trade agreement with Chile, U.S. aircraft manufacturer Curtiss-Wright established in Los Cerrillos airport an assembly line of modern D-12 Falcon observation-and-attack biplanes. Powered by a 435HP Curtiss V-1150-5 engine, capable of reaching a maximum speed of 225 km/h and a range of 1,000 km, the Falcon was crewed by two (pilot and observer) and armed with four forward-firing .30 cal. machine guns and another pair mounted on a scarff-type ring operated by the observer; also, these capable aircraft could carry a bomb-load of 90 kg.

The entire production of 20 units was destined to the Chilean Military Aviation, but with the escalating crisis following the removal from office of President Carlos Ibáñez del Campo, almost half of the completed aircraft were yet to be delivered, their fate still uncertain by 1932. In September of the previous year, nine of them had entered in combat during the well-known "Rebelión de los Marineros" (The Sailors

Rebellion), when they attacked battleship *Almirante Latorre* and cruiser *O'Higgins* in order to placate an uprising staged by the Chilean Navy.

At the outbreak of the Gran Chaco War, South America began to be regarded as a promising market for military aircraft. Thus Clarence K. "Web" Webster, president of the Curtiss-Wright Export Corporation – a subsidiary of Curtiss-Wright – was sent to Buenos Aires. He was contacted by Byington Jr. and Coriolano de Araújo for the purchase, for the Constitutionalist, of the remaining Falcons made in Chile. The deal would satisfy all concerned parties: Curtiss-Wright and the Chileans would get rid of the surplus aircraft and the Constitutionalist would have the weapons they so urgently needed. Nine aircraft, at the unit price of US\$ 31,000 for the first two and US\$ 27,500 for the remaining ones, were acquired. (Some sources indicate a total price tag of US\$ 292,500.) But the expenses did not end there. According to some references, the Chilean Ministry of War would have charged a clearance fee of US\$ 3,131.51 for each airframe, so the Falcons would be allowed to leave the factory complete with all guns.

The United States, Chile and Brazil all subscribed to the *Convention on the Rights and Duties of States in the Event of Civil Strife*, signed in Havana in 1928. Technically at odds with the Convention (2), Webster and the insurgents had to find a "proxy buyer", and bribed a group in Argentina with US\$25,000 to front as such. The delivery of the aircraft had to be made by air, flying over Argentine and Paraguayan territory. Webster hired American and British pilots to ferry them to Mato Grosso, where they were to be replaced by Constitutionalist pilots.



This Falcon was given as payoff to Paraguay so as to allow the other eight aircraft to be refueled over its territory during ferry flights. Wearing the colors of the Aviación Militar Paraguaya, it was registered as No. 17 and employed in the Gran Chaco War. (Photo: Archivo del Museo Histórico Militar del Ministério de Defensa del Paraguay – via Antonio Sapienza.)

By the end of August, the first couple of Falcons left Chile. One of them, piloted by British mercenary William Hillcoat, landed on August 24 in Concepción, Paraguay, and was confiscated there. Some sources indicate the landing on Paraguayan soil was deliberate, so the airplane would be given to the Government of that country as a payoff for a permit for the others to be freely ferried over and get refueled. This particular Falcon ended up registered as No. 17 in the *Aviación Militar Paraguaya* (Paraguayan Military Aviation) and was extensively used in the Gran Chaco War, and on many occasions served as a Presidential transport! It was discharged in 1943.

On September 3, during one of the ferry flights, another Falcon landed by mistake in Capitán Balo, on Paraguayan soil, near the Brazilian town of Patrimônio União, in Mato Grosso. It was also confiscated by local authorities, but the Constitutionalist managed to have it released in exchange for two automatic rifles and 10,000 rounds of ammunition.

Deliveries proceeded smoothly, with the last four aircraft arriving on September 27. Thus, eight Falcons effectively got into the hands of the Constitutionalist, but no more than three were seen simultaneously on a given mission. It is said that some had readiness problems, and at least one would have its propeller disabled during attempts to harmonize the front guns. The following list details the Curtiss D-12 Falcon purchased by Constitutionalist forces:

Curtiss C/N	Aviação Militar S/N	Later S/N	SOC Date	Remarks
1 1993	1	3-111	1937	
2 1994	-	-	1943	Retained in Paraguay.
3 1995	2	3-112	1940	Radial engine.

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4 1996	3	3-113	1938	
5 1997	4	3-114	1938	Radial engine.
6 1998	5	3-115	1941	
7 1999	6	3-116	1936	
8 2000	7	3-117	1940	
9 ????	-	-	-	Shot down on 14-Sep-1932.

The Falcons in combat

Although the Falcons represented a considerable reinforcement to the weakened Constitutionalist aviation, their arrival on the scene in fact happened much too late. By September, a good portion of the São Paulo territory had been taken over by Federal troops and the Falcons had little they could do to counter them.

Orton Hoover was an American instructor who had helped create the *Grupo Misto de Aviação da Força Pública do Estado de São Paulo* (Composite Aviation Group of the Military Police of the State of São Paulo). On 3 September, upon its arrival in Mato Grosso, a Falcon piloted by Hoover and observer Juvenal Paixão attacked the ship *Pernambuco* on the Paraguay River, near Porto Esperança. Two days later, a second attack damaged the vessel. The Paraguay River region was patrolled by two obsolete Avro 504 N/O trainers of the Naval Aviation, based in Ladário, equipped with floats and armed with an adapted Vickers .303 gun.

The greatest victory of the Constitutionalist Aviation occurred on 21 September, when two Curtiss Falcons, one Waco 225 and the single Nieuport-Delage raided the Federal forces' airstrip in the town of Mogi-Mirim, São Paulo, destroying two Waco CSOs on the ground and seriously damaging two others. The four Wacos were new and had just arrived from the U.S.

On 24 September, the most emblematic mission of the Falcons took place. The São Paulo forces needed the cargo ship *USS Ruth*, bringing goods and armament, to dock at Santos. The Constitutionalist aircraft attacked the fleet of Federal warships blocking the harbor, as a diversionary maneuver to allow the cargo ship to go through the blockade. The operation was carried out by the Curtiss Falcons nicknamed *Kavuré-Y* (pilot José Ângelo Gomes Ribeiro, observer Mário Bittencourt) and *Kiry-Kiry* (crewed by Lysias A. Rodrigues and Abílio Pereira de Almeida), and the Waco 225 flown by Mota Lima and Hugo Neves – all armed with 30-lb. bombs. The attack would also have counted on the possible participation of a Latécoère Laté 26.2R (registered F-AILD), confiscated from the French airline *Aéropostale* and hastily converted into a bomber, which however did not arrive in time. The naval blockade was implemented by cruiser C11 *Rio Grande do Sul* and destroyers CT2 *Pará*, CT6 *Alagoas* and CT7 *Sergipe*.

The three aircraft flew toward their respective targets, the Falcons at an altitude of 1,600 to 1,800 mt and the Waco at a lower level. Near the lighthouse in the island of Moela, they sighted the Rio Grande do Sul. One of the Falcons, the “Kavuré-Y”, attacked the cruiser and faced a strong AA barrage. Lysias Rodrigues, in his “Kiry-Kiry”, saw a fireball in the air that crashed into the sea a little later and produced a thick pillar of water. The “Kavuré-Y” had blown up, killing its crew instantly. The other two aircraft managed to release their bombs, but to no avail. There are two conflicting explanations of this episode: Constitutionlists claim a technical problem with the “Kavuré-Y” caused the explosion — either the choking of an engine valve followed by the flame backing up to the fuel tank, or an early detonation of the potassium chlorate bomb it carried. In contrast, the Navy claimed having shot down the airplane with a pair of 13.2mm Hotchkiss machine guns recently removed from the submarine *Humaytá* and installed on the cruiser. The latter version seems more plausible.

The last memorable action of the Falcons in the conflict was their raid on the Navy Arsenal in Ladário. By the end of September, after the retreat of Constitutionalist troops from the region of Porto Esperança, the Navy received an ultimatum: they should abandon the site or else be bombed by the insurgent forces. As there were no AA defenses and the two Avro 504 N/O couldn't cope with the Falcons, 47 mm and 57 mm cannons were hastily installed on the gunboat *Oyapock*, so as to allow firing at great elevations. By early October, three Falcons from

Campo Grande attacked the Arsenal, bombing and strafing tugboat *Voluntário* and causing much damage. The Avros did not take off, but the Oyapock opened fire and forced the raiders to retreat.

The Constitutionalist aircraft were identified by two black stripes on the edge of each wing, and were not serialized. Some of them were christened with nicknames: thus, the Nieuport-Delage was called *Negrinho* and the Potez 25 T.O.E. A-212 *Nosso Potez* ("Our Potez.") There were no other markings and the aircraft were finished in factory-fresh natural metal. At least four of them had their nicknames written on: "Kavuré-Y", "Kiry-Kiry", "Taguató" and "José Mário" (the latter commemorating the two men who died attacking cruiser Rio Grande do Sul.)



Curtiss Falcon No.2, sporting the colors of the Aviação Militar do Exército. (Photo: Alberto Leal Collection.)

The aftermath

The Constitutionalist Revolution ended on 3 October 1932. When Federal troops under Maj. Eduardo Gomes reached *Campo de Marte* airfield in São Paulo, on 15 October, the surviving seven Curtiss Falcons were ordered to be sent to Rio de Janeiro so they would be incorporated into the Army Military Aviation.

The Brazilian Government issued a complaint to the U.S. and Chile for an alleged breach of the 1928 Havana Convention, condemning Curtiss-Wright's sale of aircraft to the insurgents. It is unclear whether this complain had any effect, but eventually Clarence K. Webster was one of the Curtiss-Wright executives summoned to testify before the Special Committee on Investigation of the Munitions Industry, presided by Senator Gerald Nye (R-ND) in 1934-36. (3)(4)

In Brazil, in the aftermath of the Constitutionalist defeat, the Falcons were absorbed into the Army Military Aviation and at first allocated to the *Núcleo do Terceiro Regimento de Aviação* (Nucleus of the 3rd Regiment of Aviation – Nu 3º RAv), in Santa Maria, State of Rio Grande do Sul. In 1937 the group was renamed *Terceiro Regimento de Aviação* (3rd Regiment of Aviation – 3º RAv) and the aircraft were transferred to Canoas, also in Rio Grande do Sul. The last Falcon was finally discharged in 1941. Sometime in this period, two Falcons had their original V-1150-5 power plants replaced locally by radial engines: The results of this change, as well as the identity of those engines, are unknown.



Rare photo of one of the two Falcons whose power plants were replaced by radial engines in Brazil. (Photo: Carlos Dufriche Collection via Alberto Leal.)

Some printed sources in Brazil have mistakenly referred to the Brazilian Curtiss Falcons as O-1Es. However, this nomenclature applies only to the aircraft manufactured for the U.S. Army Aviation, while the units made in Chile were not from that batch. There were also some slight differences between the U.S. and Chilean models.

Notes

(1) The main goal of the Constitutionlists was to bring down the Provisional Government of Getúlio Vargas and proclaim a new Constitution for the country: Vargas had ousted São Paulo-born incumbent President Washington Luís and prevented the inauguration of President-Elect Júlio Prestes, also born in São Paulo, besides investing himself with dictatorial powers.

(2) The Havana Convention of 1928 forbade signatory states to supply arms and war matériel to insurgents "until the belligerency of the

rebels has been recognized”, after which, it was implied, sales could be made to any of the combatants at the discretion of the arms supplier. Although there was a de facto state of belligerence since July, the Government of Brazil played its diplomatic cards so as to characterize any transactions with the Constitutionlists as being in breach of the Convention.

(3) However, the Nye Committee was cracking down the activities of American military industries in general, not only those who had done business with insurgent forces: representatives for Casa Mayrink Veiga, through which the Brazilian Government had acquired weaponry, were also summoned, and gave details in their testimony on how third-party countries often served as fronts in order to circumvent eventual bans on arms transactions.

(4) Webster and other Curtiss-Wright Export Corp. officials were later indicted in 1936 in the landmark legal case *The United States vs. Curtiss-Wright Export Corp.*, for not having complied to the Presidential embargo on the combatants in the Gran Chaco War by selling Condor passenger aircraft converted into bombers to Bolivia. The case was important as it established principles of Government regulation of the arms business and the supremacy of the Executive in the conduction of U.S. foreign policy.

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