Latécoère 631 Flying Boat Airliner

Le **Latécoère 631** est un hydravion transatlantique civil. Fleuron de l'industrie Latécoère, il fut le plus grand hydravion de son époque. Le prototype fut saisi par les Allemands pendant l'Occupation, et bombardé par les Alliés. Les derniers Latécoère 631 ont été retirés du service en 1955 après la perte de quatre appareils :

- nº 7 (compagnie SNCAN) perdu en mer, dans la Manche au large du Havre.
- nº 6 (compagnie Air France) perdu dans l'Atlantique-sud.
- nº 3 (compagnie SEMAF), perdu au large du Cap Ferret.
- nº 8 (compagnie France-Hydro), perdu au Cameroun.

Symbole du transport aérien français au sortir de la guerre, avec le choix erroné de l'hydravion qui sera abandonné au profit des avions de ligne terrestres, appareil de gros tonnage et à grand rayon d'action, le Latécoère 631 n'aura réalisé qu'une courte carrière commerciale de 1945 à 1955.

Malgré tout, les Laté 631 (4 appareils réellement exploités sur les 10 construits) auront à leur actif d'avoir pu réaliser pendant un an la plus longue liaison commerciale sans escale de leur époque, reliant Port-Étienne à Fort-de-France soit 4 700 km non-stop, battant au passage quelques records du monde, lors de la liaison reliant Bordeaux a la Martinique mit en place à partir du 25 juillet 1947.

Historique

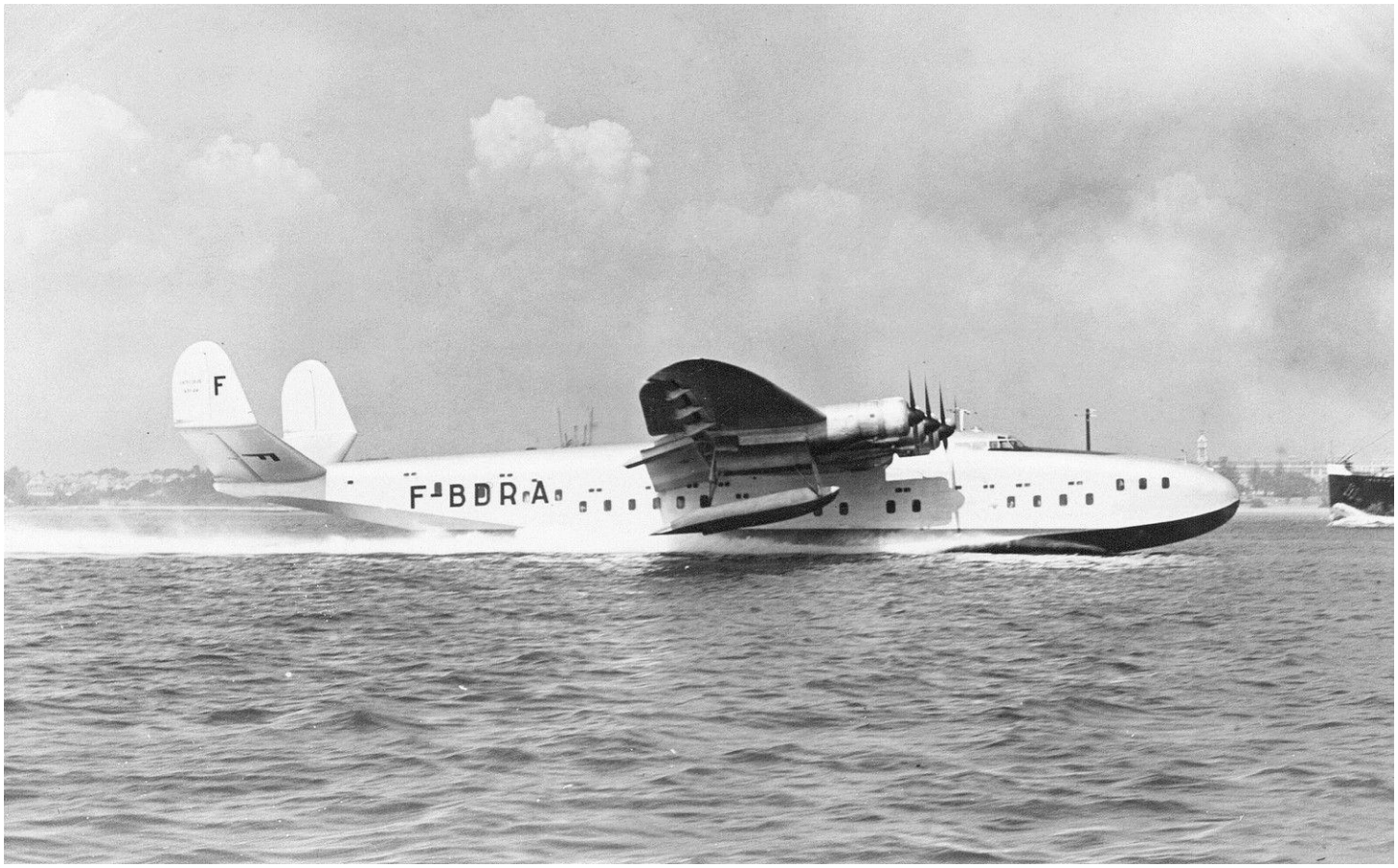
Utilisation commerciale : Première liaison régulière entre la France et les Antilles

La première liaison aérienne régulière entre la France et les Antilles démarre le 25 juillet 1947. Les passagers parisiens embarquaient gare d'Austerlitz à 19h30 et gagnaient Bordeaux en train, vers minuit. Un car Air France les conduisait alors à l'hydrobase des Hourtiquets sur l'étang de Biscarosse où le Latécoère 631 et l'équipage technique de huit navigants et de trois membres du personnel dits "complémentaires de bord" (un commissaire de bord et deux stewards) les attendaient. Le décollage était prévu pour 3:00 du matin après service d'un buffet à l'hydrobase. Commençait alors un vol de dix à douze heures à destination de Port-Etienne (l'actuel Nouadhibou) alors dans la colonie de la Mauritanie, soit 3 200 km. Après une escale de quatre heures nécessaires à l'avitaillement avec des pompes à main de 32 000 litres d'essence, l'appareil entamait son vol transocéanique de 4 700 km vers Fort-de-France, d'une durée de seize à vingt heures, selon les vents. Le plus souvent, il ne volait guère à plus de 2 500 m et sa vitesse d'exploitation variait entre 280 et 300 km/h. Compte tenu du décalage horaire, l'arrivée à destination avait lieu au petit matin du surlendemain du jour de départ de Paris. Air France avait compris qu'avec de pareilles durées de vol cet avion ne pourrait concurrencer les paquebots qu'en offrant aux passagers un confort et un luxe qui s'en rapprocheraient, et ce pour 117 000 francs français de l'époque (environ 5 500 euro) aller-retour. On a cherché à soigner l'insonorisation (par projection d'amiante sur la coque et adjonction d'un voile de verre) et l'appareil comportait quarante quatre sièges - des fauteuils en cuir - transformables la nuit en couchettes avec draps et couvertures, répartis en cabines de deux ou quatre passagers chacune séparées par des rideaux, une majorité d'entre elles comportant des lavabos. Il comportait aussi un luxueux bar avec tables et fauteuils, malheureusement situés au droit des hélices dans la zone de bruit maximal, et une cuisine avec table de travail, cuisinière à gaz et réfrigérateur pour la confection par les stewards, à l'époque, obligatoirement de formation hôtelière, de repas servis chauds en vol. Ceux-ci avaient la charge, avec un repos très réduit, d'assurer un service de trente cinq heures d'affilée, y compris l'escale, qui incluait même le lavage de la vaisselle. Il y eut 23 rotations avant la fin de la liaison causé par la perte de deux appareils en 1948 dont l'appareil n°6, le seul à porter les couleurs d'Air France le 1er aout 1948.

Accident du nº 6 en 1948

Article détaillé : Vol Air France 072.

Le 31 juillet 1948 le Latécoère 631-06 immatriculé F-BDRC disparaît dans l'océan Atlantique avec à son bord 52 personnes dont 40 passagers. Ce vol devait relier Fort-de-France à Port-Étienne (Mauritanie). L'accident pourrait être dû à une explosion partielle en vol. Il se perd à 1 200 milles marins à l'ouest de Dakar, où le garde-côtes américain *Campbell* en retrouve des débris le 4 août mais aucun survivant.



Tentative de réhabilitation dans le transport de fret au Cameroun et désastre définitif

En avril 1950, les Latécoère 631 sont interdits de vol à la suite de la perte du nº 3 appartenant à la Société d'exploitation du matériel aérien français (SEMAF), alors qu'étaient menés avec lui des essais visant à comprendre les causes de la perte du nº 6. Louis Demouveaux, chef-pilote chevronné à la SEMAF et qui avait participé à la refondation de la Compagnie générale transsaharienne, en 1946, quitte la SEMAF, transite par la STA (Société transatlantique aérienne) qui opère en AEF, puis fonde la société France-Hydro en octobre 1951.

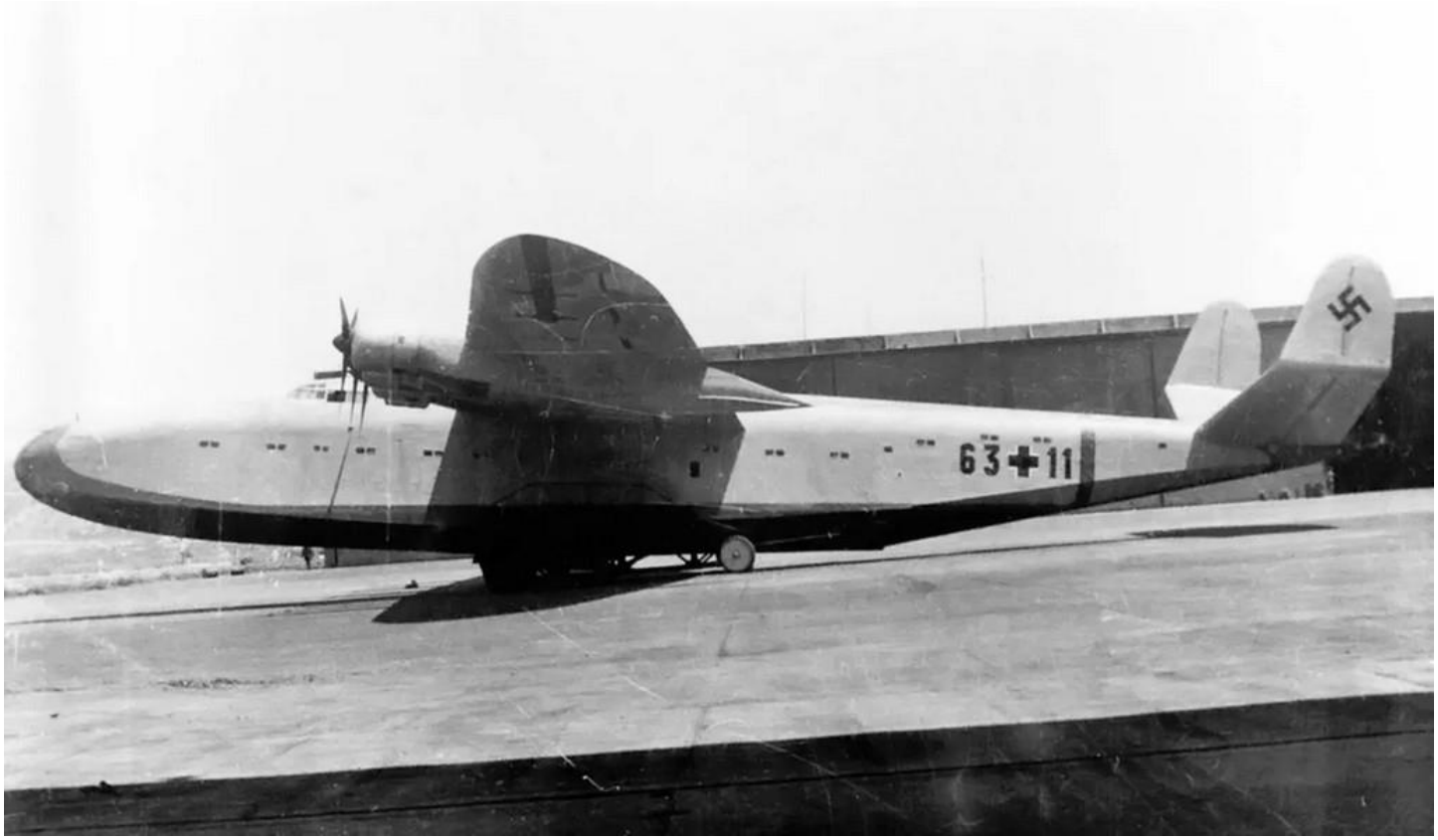
Les autorités françaises ont décidé d'affecter la flotte au transport de fret, plus précisément du coton entre le lac Léré au Tchad et le port de Douala au Cameroun français. Un avion, le nº 8 F-BDRE, commence la rotation en mars 1953.

En octobre 1954, France-Hydro vient de finir de racheter toute la flotte des sept Latécoère 631 et elle compte réintroduire en service sa seconde unité sous quelques mois, la fiabilité du modèle semblant définitivement acquise après trois années d'observation et d'exploitation à pleine charge (jusqu'à 75 t), de sa première unité, reprise à la SEMAF.

Mais le 11 septembre 1955, les huit membres d'équipage du nº 8 F-BDRE, dont Louis Demouveaux, trouvent la mort dans le dernier accident d'un Laté-631, à mi-chemin entre Douala et le Lac Léré. Cet accident, dû à des conditions météo extrêmes, scella la fin des exemplaires restants de la série, qui sont tous démantelés.

Série

- nº 1 immatriculé F-BAHG[2] puis 63+11 dans la Luftwaffe : prototype ayant effectué son premier vol le 4 novembre 1942 avec le pilote Pierre Crespy. Réquisitionné par les autorités allemandes, il est détruit par une attaque de "chasse libre" d'un Mosquito du 605 Squadron de la RAF sur le lac de Constance, le 7 avril 1944.
- nº 2 immatriculé F-BANT *Lionel de Marmier* : perd une hélice le 31 octobre 1945 lors d'un vol de démonstration en Uruguay, provoquant la mort de 2 passagers. Il existe une relation de première main de l'accident par l'écrivain et chroniqueur Jacques Perret qui était présent à bord. Il est réformé en 1954 après 420 heures de vol et sera le dernier appareil de la série ferraillé fin 1963.



- nº 3 immatriculé F-BANU puis F-WANU - *Henri Guillaumet* : affecté sur la ligne des Antilles au sein de Air France, puis versé à la SEMAF, il s'écrase lors d'un vol d'essai, au large du Cap Ferret, sur rupture de commandes d'ailerons le 28 mars 1950. Il n'y a aucun survivant parmi les 12 personnes se trouvant à bord.
- nº 4 immatriculé F-BDRA : affecté sur la ligne des Antilles au sein de Air France, il est réformé après 840 heures de vol et ferraillé après 1956.
- nº 5 immatriculé F-BDRB : stocké à Biscarrosse, il est ferraillé après 1956.
- nº 6 immatriculé F-BDRC : affecté à la ligne des Antilles au sein de Air France, il est perdu corps et biens le 31 juillet 1948 au-dessus de l'Atlantique-Sud, à la suite d'une explosion en vol, faisant 52 victimes. Il avait fait une visite en rade de Genève du 12 au 14 juin de la même année.
- nº 7 immatriculé F-BDRD : de la société SNCAN, il s'écrase en mer dans la Manche, au large du Havre, le 21 février 1948, faisant 20 victimes.
- nº 8 immatriculé F-BDRE : de la société France-Hydro, il totalisait 2 000 heures de vol, lorsqu'il s'écrasa au Cameroun le 1er septembre 1955, faisant 16 victimes.
- nº 9 immatriculé F-BDRF puis F-WDRF : achevé en 1948, il est stocké à Biscarrosse puis ferraillé après 1956, avant utilisation.
- nº 10 immatriculé F-BDRG puis F-WDRG : stocké à Biscarrosse en 1949, il effectua 3 heures 44 de vol et fut ferraillé après 1956.
- nº 11 immatriculé F-BDRH : livré inachevé à Biscarrosse en septembre 1948, il est ferraillé alors qu'il était en cours d'assemblage, après 1956.

Source : https://fr.wikipedia.org/wiki/Latécoère_631

Version anglaise

On 12 March 1936, the civil aeronautics department of the French Air Ministry requested proposals for a commercial seaplane with a maximum weight of 88,185 lb (40,000 kg) and capable of carrying at least 20 passengers (with sleeping berths) and 1,100 lb (500 kg) of cargo 3,730 miles (6,000 km) against a 37 mph (60 km/h) headwind. In addition, the aircraft needed a normal cruising speed of 155 mph (250 km/h). This large passenger aircraft was to be used on transatlantic service to both North and South America. Marcel Moine, head engineer at Latécoère (*Société Industrielle Latécoère*, SILAT) had already been working on an aircraft to meet similar goals. In late 1935, Moine had designed an aircraft for service across the North Atlantic with a maximum weight of 142,200 lb (64,500 kg). However, the design was seen as too ambitious. Moine modified the design to meet the request issued in 1936, and the aircraft was proposed to the Air Ministry as the Latécoère 630.

The Latécoère 631 was one of the most impressive flying boats ever built. Unfortunately, its time had already passed before the aircraft could enter service. Laté 631-04 (fourth aircraft) F-BDRA is seen here, and it was the second of the type in service for Air France. Note the configuration of the flaps and ailerons.

The Laté 630 was an all-metal, six-engine flying boat with retractable floats. The 930 hp (694 kW), liquid-cooled Hispano Suiza 12 Ydrs was selected to power the 98,860 lb (44,842 kg) aircraft, which had a 187 ft (57.0 m) wingspan, was 117 ft 9 in (35.9 m) long, and had a range of 4,909 miles (7,900 km). On 15 November 1936, order 575/6 was issued for detailed design work of the Laté 630 and a model for wind tunnel tests. This was followed by order number 637/7 for a single Laté 630 prototype on 15 April 1937. However, the Air Ministry cancelled the Laté 630 on 22 July 1937, stating that advancements in aeronautics enabled the design and construction of a larger and more capable aircraft. Construction of the Potez-CAMS 161, which was designed under the same specifications as the Laté 630, was allowed to continue.

Taking aeronautical advancements into consideration, the Air Ministry issued an updated request for an aircraft with a maximum weight of 154,323 lb (70,000 kg) and capable of transporting 40 passengers and 11,000 lb (5,000 kg) of cargo with a normal cruising speed of over 186 mph (300 km/h). To meet the new requirements, Moine and Latécoère enlarged and repowered the Laté 630 design, creating the Laté 631. In October 1937, detailed design work and a wind tunnel model of the Laté 631 were ordered. Order number 597/8 for a single prototype was issued on 1 July 1938. A Lioré et Olivier H-49 (which became the SNCASE SE.200) prototype was also ordered under the same specification as the Laté 631.

The Latécoère 631 was an all-metal flying boat with a two-step hull. The monocoque fuselage consisted of an aluminum frame covered with aluminum sheeting. The interior of the hull was divided into numerous passenger compartments and included a lounge/bar under the radio/navigation room (may have been in the nose in some configurations) and a kitchen at the rear. The cockpit and radio/navigation room were located above the main passenger compartment and just ahead of the wings. The cockpit was positioned rather far back from the nose of the aircraft. Numerous access doors were provided, including in the nose, side of the cockpit, and in the sides of the fuselage.

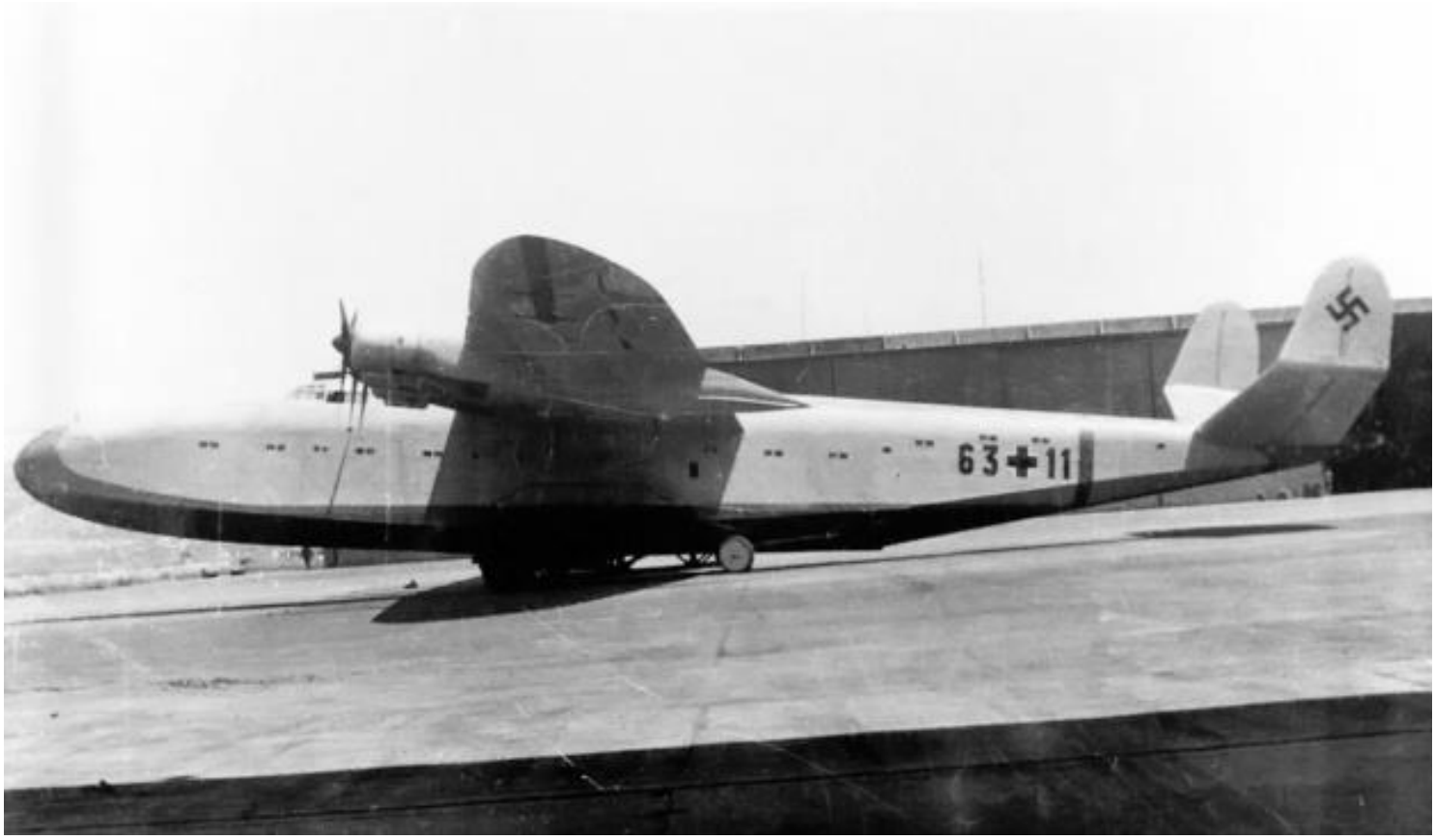
The cockpit of the Laté 631 was rather spacious. Note the six throttle levers suspended above the pilot's seat. The copilot could not reach the levers, but the flight engineer had another set of throttles. The central pylon contained the trim wheels and controls for the floats and flaps. At left in the foreground is the navigation station, and the radio station is at right.

The high-mounted wing was blended to the top of the fuselage and carried the aircraft's six engines in separate nacelles. The wing had two main spars and a false spar. Each wing consisted of an inner section with the engine nacelles and an outer section beyond the nacelles.

The outer engine nacelle on each wing incorporated a retractable float that extended behind the wing's trailing edge. Due to interference, the float needed to be at least partially deployed before the flaps could be lowered. A passageway in the wing's leading edge was accessible from the radio/navigation room and allowed access to the engine nacelles. Each nacelle had two downward-opening doors just behind the engine that served as maintenance platforms. A section of the firewall was removable, allowing access to the back of the engine from within the nacelle. Between the inboard engine and the fuselage was a compartment in the wing's leading edge designed to hold mail cargo.

Originally, 1,500 hp (1,119 kW) Gnôme Rhône 18P radial engines were selected to power the Laté 631. However, the availability of these engines was in question, and a switch to 1,600 hp (1,193 kW) Wright R-2600 radial engines was made. The Gnôme Rhône 14R and the Pratt & Whitney R-2800 were also considered, but the 14R was also unavailable, and the export of R-2800 engines was restricted. Each engine turned a three-blade, variable-pitch propeller that was 14 ft 1 in (4.3 m) in diameter and built by Ratier. Later, larger propellers were used, but sources disagree on their diameter—either 14 ft 5 in or 15 ft 1 in (4.4 m or 4.6 m). It is possible that both larger diameters were tried at various times.

At the rear of the aircraft were twin tails mounted to a horizontal stabilizer that had 16.7 degrees of dihedral. All control surfaces had an aluminum frame with a leading edge covered by aluminum. The rest of the control surface was fabric covered. Movement of the control surfaces was boosted by a servo-controlled electrohydraulic system, which could be disengaged by the pilot. The slotted aileron on each wing was split in the middle and consisted of an outer and an inner section. The ailerons also had Flettner servo tabs that were used to trim the aircraft and could be engaged to boost roll control.



Laté 631-01 (F-BAHG) in German markings as 63+11. The openings for the large passenger windows existed in the airframe but were covered on Laté 631-01. The prototype aircraft was destroyed during an allied attack while in German hands on Lake Constance in April 1944.

Six wing tanks carried 7,582 gallons (28,700 L) of fuel, and each tank fed one engine. During flight, these tanks were replenished by pumping fuel from six tanks in the hull that carried 5,785 gallons (21,900 L) of fuel. The Laté 631's total fuel capacity was 13,367 gallons (50,600 L). Each engine had its own 111-gallon (422-L) oil tank.

The Latécoère 631 had a 188 ft 5 in (57.43 m) wingspan, was 142 ft 7 in (43.46 m) long, and was 33 ft 11 in (10.35 m) tall. The aircraft had a maximum speed of 245 mph (395 km/h) at 5,906 ft (1,800 m) and 224 mph (360 km/h) at sea level. Its cruising speed was 183 mph (295 km/h) at 1,640 ft (500 m). The Laté 631 had an empty weight of 89,265 lb (40,490 kg) and a maximum weight of 163,347 lb (75,000 kg). The aircraft had a 3,766-mile (6,060-km) range with an airspeed of 180 mph (290 km/h) against a 37 mph (60 km) headwind.

Construction of the Laté 631 was started soon after the contract was issued. However, work was halted on 12 September 1939 so that Latécoère could focus on production of desperately needed military aircraft after war was declared on Germany. After the French surrender, work on the Laté 631 resumed in July 1940 but was halted again on 10 November by German order. The French and Germans negotiated over continuing work on the aircraft, which was purely for civil transportation. The Germans allowed construction to continue, and a second prototype was ordered under the same contract as the first (597/8) on 19 March 1941. The 35 Wright R-2600 engines that had been ordered were stranded in Casablanca, Morocco by the outbreak of the war in 1939. Amazingly, the hold on these engines was released, and they were delivered at the end of 1941.

Laté 631-02 (F-BANT) was finished at the end of the war and painted with invasion stripes for (hopefully) easy identification. The aircraft is at Biscarrosse undergoing tests, probably around the time of its first flight on 6 March 1945. Like on the prototype, the passenger windows are covered, but the windows were later added. Note the retractable float and that engine No. 5 is running.

The Laté 631-01, the first prototype, was registered as F-BAHG and completed at Toulouse, France in the summer of 1942. The aircraft was then disassembled and transported, with some difficulty, 310 miles (500 km) to Marignane in southern France. The aircraft was then reassembled for subsequent tests on Étang de Berre. The SNCASE SE.200, the Laté 631's competitor, was built at Marignane and was nearing completion at the same time. The reassembly of Laté 631-01 was completed in October 1942, and the aircraft made its first flight on 4 November with Pierre Crespy as the pilot. Seven others, including Moine, were onboard as crew and observers. A second flight was made on 5 November, and flutter of the aileron and wing was encountered at 143 mph (230 km/h). The issues were traced to an improperly made part in the aileron control circuit that had subsequently failed.

Laté 631-01 was repaired, but German occupation of the French free zone on November 1942 brought a halt to further flight tests. On 23 November, order 280/42 was issued for two additional Laté 631s, bringing the total to four aircraft. The Germans lifted flight restrictions, and Laté 631-01 was flown again in December 1942. Test flights continued but were halted on several occasions by German orders. In April 1943, the tests were allowed to continue provided the aircraft was painted in German colors with German markings and a Lufthansa pilot was on board during the flights. Germany had essentially seized Laté 631-01 (and the SE.200) at this point and believed the aircraft could be used as a commercial transport once the "quick" war was concluded. The Germans were also interested in ways to add armament to the flying boat and make it a maritime patrol aircraft. Laté 631-01 was repainted and carried the German code 63+11 (for 631-01).

Laté 631-01 flight testing resumed in June 1943. On 20 January 1944, the aircraft took off on its 46th flight, and it was the first flight in which its gross weight exceeded 154,323 lb (70,000 kg). A second flight was made at 157,630 lb (71,500 kg). The tests had demonstrated that at 88,185 lb (40,000 kg), the Laté 631 could hold its course with three engines on the same side shut down. At 154,323 lb (70,000 kg), the course could be held with the outer two engines shut down on the same side. Some additional indications of flutter had been encountered but not understood.

Laté 631-02 at Rio de Janeiro, Brazil in late October 1945. Note the open nacelle platforms, which were accessible through a wing passageway. A Brazilian flag is attached to the forward antenna mast.

Around 22 January 1944, Laté 631-01 was taken over by German forces and flown to Lake Constance (Bodensee) and moored offshore from Friedrichshafen, Germany. The SE.200 had already suffered the same fate on 17 January. On the night of 6 April 1944, Laté 631-01 and the SE.200 were destroyed at their moorings on Lake Constance by an Allied de Haviland Mosquito. The Laté 631 prototype had accumulated approximately 48 hours of flight time.

Construction of other Laté 631 aircraft had continued until early 1944, when German forces wanted Latécoère to focus on building the Junkers 488 bomber (which was never completed and was destroyed by the French Resistance). The disassembled second Laté 631 (631-02) was hidden in the French countryside until the end of the war. On 11 September 1944, order 51/44 was issued for five additional Laté 631 aircraft, which brought the total to nine. In December 1944, the components of Laté 631-02 were transported to Biscarrosse, where the aircraft was completed and assembled for testing on Lac de Biscarrosse et de Parentis. On 6 March 1945, Crespy took Laté 631-02 aloft for its first flight. While testing continued, the aircraft was christened Lionel de Marmier and was registered as F-BANT in April 1945. On 31 July, Laté 631-02 started a round trip of over 3,730 miles (6,000 km) to Dakar, Senegal, returning to Biscarrosse on 4 August. On 24 August, material for two additional Laté 631s was added to order 51/44, enabling the production of up to 11 aircraft.

On 28 September 1945, an issue with the autopilot in Laté 631-02 caused a violent roll to the right that damaged the wing, requiring the replacement of over 8,000 rivets to affect repairs. The aircraft was quickly fixed so that a scheduled propaganda flight to Rio de Janeiro, Brazil could be made on 10 October 1945. On that day, Laté 631-02 collided with a submerged concreate mooring block while taxiing and tore a 6 ft 7 in (2 m) gash in the hull. Upset over this incident, French authorities took the opportunity to nationalize the Latécoère factories. Production of the last six Laté 631 aircraft was spread between AECAT (which was formed from Latécoère), Breguet, SNCASO, and SNCAN. SNCASO at Saint-Nazaire would be primarily responsible for the production of aircraft No. 6, 8, and 10, and SNCAN at Le Havre would be primarily responsible for aircraft No. 7, 9, and 11. Laté 631-02 eventually made the flight to Rio de Janeiro, with 45 people on board, arriving on 25 October 1945.

Laté 631-03 (F-BANU) was the third aircraft completed. Its first flight was on 15 June 1946, and it crashed during a test flight on 28 March 1950 while investigating the loss (in-flight break up) of Laté 631-06 on 1 August 1948. Investigation of Laté 631-03's crash revealed vibration issues with the engines and wings, and led to a solution to prevent further accidents.

On 31 October 1945, the first tragedy struck the Laté 631 program. While on a flight between Rio de Janeiro and Montevideo, Uruguay with 64 people on board, Laté 631-02 suffered a propeller failure on the No. 3 (left inboard) engine. The imbalance caused the No. 3 engine to rip completely away from the aircraft. A separated blade damaged the propeller on the No. 2 engine (left middle), which resulted in that engine almost being ripped from its mounts. Another separated blade flew through the fuselage, killed one passenger, and mortally wounded another (who later died in a hospital). An emergency landing was performed on Laguna de Rocha in Uruguay. The failure of the Ratier propeller was traced to its aluminum hub, which was subsequently replaced with a steel unit. The recovery of the aircraft was performed by replacing the missing engine with one from the right wing. The four-engine aircraft, with a minimal crew, was flown to Montevideo on 13 November for complete repairs, which took three months.

In February 1946, three Laté 631 aircraft were purchased by Argentina, but this deal ultimately fell through, with Argentina never paying for the aircraft. In May 1946, an agreement was reached in which Air France would take possession of three Laté 631 aircraft. On 15 June 1946, Jean Prévost made the first flight of Laté 631-03 at Biscarrosse. The aircraft was registered as F-BANU, christened as Henri Guillaumet, and soon transferred to Air France.

Laté 631-04 was registered as F-BDRA, and its first flight occurred on 22 May 1947 at Biscarrosse. The aircraft was the second Laté 631 to go to Air France. Laté 631-05 was registered as F-BDRB, and its first flight occurred on 22 May 1947. Laté 631-06, registered as F-BDRC, made its first flight on 9 November 1947, taking off from the Loire estuary near Saint-Nazaire, France. Laté 631-06 F-BDRC was the third aircraft for Air France.

Laté 631-05 (F-BDRB) first flew on 22 May 1947. The aircraft was slated to be converted into a cargo transport, but that never occurred. The aircraft was damaged beyond economical repair during a hangar collapse in February 1956.

Laté 631-07, registered as F-BDRD, made its first flight on 27 January 1948. The aircraft was lost on 21 February during a test flight from Le Havre to Biscarrosse. Laté 631-07 had taken off in poor weather and was not equipped for flying on instruments alone.

It crashed into the English Channel (Bay of Seine) off Les-Dunes-de-Varreville (Utah Beach). A definitive cause was never found, but it was speculated that either the pilot lost spatial orientation and crashed into the sea, or that the pilot was flying very low or trying to land after the weather closed in and struck wreckage left behind from the D-Day landings at Utah Beach. Regardless, all 19 on board, which were the crew and Latécoère engineers, were killed.

On 1 August 1948, Air France Laté 631-06 F-BDRC was lost over the Atlantic flying between Fort-de-France, Martinique and Port-Etienne (now Nouadhibou), Mauritania. Wreckage was recovered that indicated an in-flight breakup that possibly involved a fire or explosion, but a definitive cause was never determined. None of the 52 people on board survived. F-BDRC had accumulated 185 flight hours at the time of the accident, and Air France subsequently withdrew its two other Laté 631s from service. Laté 631-04 F-BDRA participated in the search for survivors, flying a total of 75 hours, including a single 26-hour flight.

The flying boat era had ended during the 10 years between when the Latécoère 631 was ordered in 1938, and when the aircraft went into service with Air France in 1947. The advances in aviation during World War II had shown that landplanes were the future of commercial aviation. Following the accidents, there was no hope for the Laté 631 to be used as a commercial airliner. With four completed aircraft and another four under construction, the decision was made to convert the Laté 631 into a cargo aircraft.

Laté 631-06 (F-BDRC) made its first flight on 9 November 1947. It was the third (and final) aircraft to be received by Air France. On 1 August 1948, Laté 631-06 disappeared over the Atlantic with the loss of all 52 on board. Air France withdrew its remaining Laté 631 aircraft as a result. Note the access hatch atop the fuselage. Another hatch existed behind the wings.

On 28 November 1948, Laté 631-08 F-BDRE was flown for the first time, taking off from Saint-Nazaire. Laté 631-08 was originally intended as an additional aircraft for Air France but was orphaned after the crash of Laté 631-06. Laté 631-08, along with Laté 631-03, were eventually given to a new company, SEMAF (*Société d'Exploitation du Matériel Aéronautique Français* / French Aircraft Equipment Exploitation Company).

SEMAF was founded in March 1949 and worked to develop the Laté 631 as an air freighter. Laté 631-08 F-BDRE was converted to a cargo aircraft by strengthening its airframe and installing a 9 ft 2 in x 5 ft 3 in (2.80 x 1.60 m) cargo door on the left side of the rear fuselage. The aircraft was first flown with the modifications on 8 June 1949. Laté 631-08 soon began hauling fabric and manufactured products between France and various places in Africa. The aircraft had completed 12 trips by March 1950.

Laté 631-09 F-BDRF preceded Laté 631-08 into the air. Laté 631-09's first flight occurred on 20 November 1948 at Le Harve. Laté 631-10 F-BDRG made its first flight on 7 October 1949 from Saint-Nazaire. Both of these aircraft were flown to Biscarrosse and stored with the never completed Laté 631-11 F-BDRH. Laté 631-09 and -10 were later reregistered as F-WDRF and F-WDRG.

Laté 631-03 F-BANU was reregistered as F-WANU when it underwent tests to measure vibrations of the airframe and engines. This was done in part to discover what led to the loss of Laté 631-06 F-BDRC. On 28 March 1950, Laté 631-03 made its second flight of the day, taking off from Biscarrosse. With engine power pushed up, the left wing began to flutter, and the outer section of the left aileron broke away. Laté 631-03 began to spin, turned on its back, and continued to spin until it impacted the water inverted. The 12 people on board, which included the crew and engineers from Latécoère and Rotol, were killed instantly. Many witnessed the crash, and the wreckage of Laté 631-03 was recovered. Examination revealed that the engines with a .4375 gear reduction and operating at 1,925 rpm during cruise flight turned the propeller at 840 rpm. This resonated with a critical frequency of the wings, ailerons and Flettner tabs, which was 840 cycles per minute. The interaction rapidly fatigued parts in the outer aileron control system and caused them to fail. The damaged aileron system allowed the aileron to flutter, breaking the control system completely and leading to a complete loss of aircraft control.

Laté 631-08 (F-BDRE) is seen here with its updated registration of F-WDRE. Laté 631-08 was the only aircraft that operated as an air freighter.

At the time if the accident, Laté 631-03 had been reengined with R-2600 engines incorporating a .5625 gear reduction. These engines were installed on later Laté 631 aircraft and retrofitted on the earlier aircraft. However, nearly all of the Laté 631-03's 1,001 hours were with the other engines, which was enough to have fatigued the aileron control to its breaking point. The loss of Laté 631-03 led to the collapse of SEMAF.

With the cause of the crash known, a new company was formed to upgrade the Laté 631 fleet and modify them for cargo service. La Société France Hydro (France Hydro Company) was given charge of Laté 631-02 and Laté 631-08, which was reregistered as F-WDRE. Modifications to prevent a reoccurrence of Laté 631-03's crash were incorporated into the aircraft, and Laté 631-08 returned to cargo service in late 1951. Laté 631-08 flew a Biscarrosse-Bizerte-Bahrain-Trincomalee-Saigon route of some 7,460 miles (12,000 km) starting in March 1952. The aircraft departed Bizerte, Tunisia with a takeoff weight of 167,000 lb (75,750 kg), the highest recorded for a Laté 631. By 1953, Laté 631-08 was hauling cotton from Douala, Cameroon to Biscarrosse. This had proven somewhat lucrative, and a cargo-conversion of Laté 631-02 was started. Laté 631-05 was also transferred to France Hydro, but little was done with the aircraft. On 10 September 1955, Laté 631-08 broke apart during a violent thunderstorm while over Sambolabo, Cameroon. All 16 people on board were killed. The Latécoère 631 was withdrawn from service after this accident, and no further attempts were made to use the aircraft.

In February 1956, Laté 631-05, -10, and -11 were damaged beyond economical repair when the roof of the Biscarrosse hangar collapsed after heavy snowfall. All of the remaining Latécoère 631s were subsequently scrapped, most in late 1956. In 1961, the remains of Laté 631-01 and the SE.200 prototype were raised from Lake Constance by a Swiss recovery team and subsequently scrapped.

Laté 631-08 while in service with France Hydro. The aircraft crashed in a storm on 10 September 1955; this was the last flight of any Laté 631. The remaining aircraft were later scrapped. Note the open door on the bow and the open hatch forward of the cockpit that led to a cargo hold.

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