

The Ultimate Connie Lockheed's Starliner

by
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Even as Boeing's prototype 707 was taking to the sky in July 1954, trans-Atlantic air carrier managers were looking for an aircraft with reliable nonstop capability in both directions between the United States and European destinations while awaiting the first jets in 1958.

The model 377 Stratocruiser, introduced by Pan American Airways on the New York-to-London segment in June 1949, could barely operate nonstop with a limited payload and speed. The Douglas DC-7B began flying the same route six years later and could do so a bit faster, but neither was able to handle longer legs from southern European destinations, and even the shorter segments often required fuel stops on westbound runs due to headwinds. Likewise, Lockheed's 1049 Constellations suffered the same capability shortfall, despite greater speed and in some cases, utilization of wingtip fuel tanks. The Bristol Britannia, which first flew in August 1952, was to begin service across the Atlantic in mid-1954 with BOAC, but technical issues resulted in delays lasting until late 1957.



In mid-1954, Douglas Aircraft Company launched the extended-range DC-7C with an order for 15 aircraft from Pan Am. Dubbed "Seven Seas," it featured a slightly longer fuselage, more powerful engines and an increased center wing section. The airplane was to have a greater fuel capacity than the 1049G Constellation, and be able to fly fully loaded from Paris to New York three hours faster.

Meanwhile, at the request of TWA, Lockheed was working on a turboprop-powered model 1449 Constellation that would have more speed and range than the DC-7C. Howard Hughes wanted to order 25 for use by Trans World Airlines (TWA), which he controlled. The final long-body model, which followed nine earlier versions (1049A through the H) was designed with an entirely new, laminar-flow wing measuring 150 feet, 27 feet greater than the 1049 series airliners. It was to be powered by four Pratt & Whitney T-34 turboprop engines.

Early on, it was determined that the model 1449, with a fuselage identical to the 1049 series, was far too small to operate economically, despite its predicted 100 mph increase in cruising speed. Nevertheless, Hughes pressed forward and his Hughes Tool Company signed a contract for 25 airplanes in December 1954. Deliveries were to begin in time to allow TWA to put the type in to service for the summer 1956 schedule, against Pan Am's DC-7Cs

Only a month later, Lockheed discovered that the T-34 was not conducive to the Constellation's wing design, after the power plants produced serious vibrations on two U.S. Navy R7V-2 military versions of the Constellation. The fix would add between 3,000 and 5,000 pounds per airframe.



At first, Lockheed proposed the model 1549 with Allison 501 turboprops, but ultimately, 3,400 hp turbo-compound Wright 3350 EA-2 engines were chosen for what would become the model 1649A. Larger, 16-ft, 10-in diameter propellers were incorporated as well.

The 1449's wing was retained, allowing a 9,728-gallon fuel capacity, enough to fly even Europe-to-California polar flights nonstop. These complex engines, with direct fuel injection and two-stage superchargers, burned 115/145-octane avgas and were supported by the 1649A's 245-gallon oil capacity. With the increased wingspan, it became possible to locate the engines farther outboard, reducing the cabin noise level. Lockheed brochures boasted a cruising speed 70 mph faster than any other airliner and stated that every European gateway city would be within nonstop range of New York in both directions.

In an effort to promote its final piston-powered civil airliner, Lockheed chose the name "Super Star Constellation," but later shortened it to "Starliner." A new agreement between Hughes and Lockheed was consummated in March 1955, changing the order to the 1649A. The manufacturer actually cancelled the entire program less than a month later, as its managers realized that they were far behind development of the DC-7C and would probably not garner enough orders to make the airplane profitable. But probably fearing a lawsuit and a loss of its best customer, Lockheed President Robert Gross finally agreed to build the Starliner at Hughes' insistence.

While Pan Am's DC-7Cs arrived in time for the summer 1956 season, the first 1649A did not fly until October 1956 and TWA began receiving its aircraft in May 1957, beginning New York (Idlewild)-London-Frankfurt service on June 1. After initially operating all "Sky Tourist" flights, the Starliners began mixed, first class/tourist flights in August. It was not until 1958 that the type dominated TWA's trans-Atlantic flying, barely a year before 707s began replacing them, starting November 23, 1959, between New York, London and Frankfurt.

Scratching for any marketing advantage they could find, TWA's marketing people chose the name, "Jetstream" for the 1649A, thinly disguising their reasoning with the claim that the type flew high enough to take advantage jet stream winds. In fact, the Starliner did not attain its speed advantage over the DC-7C as earlier predicted, a letdown particularly for Howard Hughes, who always wanted to be the fastest in the air.

On September 29, 1957, TWA began polar service nonstop from Los Angeles to London, a mind-numbing voyage lasting more than 18 hours. Return flights operated from London to San Francisco and on to Los Angeles. The westbound inaugural still holds the record for a regularly scheduled land plane flight: 23 hours, 19 minutes flying time (23:32 block time), accomplished using "super long-range cruise" procedures. Equally impressive, the cockpit crew, headed by Captain Gordon Granger, operated the flight on its final leg, down to Los Angeles.

A retired TWA pilot (who shall remain nameless), recently told me he was "pretty sure" that on one of the westbound polar flights, which he flew as first officer, they exceeded 24 hours in the air, but he added, "I'm not sure it was completely legal!"

Until the jets arrived, TWA's 1649As provided the industry's premier transcontinental service, featuring "Siesta" sleeper seats and other comforts that American and United could not match with DC-7s. According to 1958 timetables, domestic Jet stream flights only utilized the Siesta seats, while overnight Super Gs still offered berths.



Among the favorite 1649As with business travelers and celebrities was westbound Flight 91, departing Idlewild Airport just after midnight and arriving LAX early the next morning, in time to turn back to IDL as Flight 4. Its evening arrival provided a rare (for those days) round trip coast-to-coast aircraft utilization.

Air France, another loyal Lockheed Constellation customer, originally ordered a dozen 1649As, which it called the "Super Starliner," but later settled on 10 aircraft. Its first delivered aircraft left Lockheed's Burbank, California base on July 8, 1957, flying nonstop to Paris (Only) in a record 17 hours, 11 minutes, and began regular Paris-New York flights a month later. Unlike TWA, Air France began by operating a weekly "Golden Parisian" luxury flight seating only 32 passengers; mixed-class flights followed. Service began in early 1958 on the polar route from Paris to Tokyo via Anchorage.

While Lufthansa's Constellation experience was limited to eight 1049G models, and later a pair of wet-leased 1049Hs, the German carrier purchased four Starliners for use on its long-haul segments. Not ordered until March 1956, the "Super Stars," as Lufthansa called them, were introduced on new Cologne/Bonn-New York flights in February 1958, followed by New York service from Frankfurt and Düsseldorf. The airline's "Senator" service featured deluxe accommodations, including berths.

With four 1649As on order at the time, Italian carrier Linee Aeree Italiane (LAI) was merged into Alitalia (which had ordered DC-7Cs) in 1957. The airliners, already built and awaiting delivery, were acquired by TWA and handed over in May and June 1958, bringing that carrier's fleet total to 29. Initially, these airplanes were not radar-equipped, and featured a white nosecone.

All four aircraft were converted to cargo configurations in the spring of 1961, serving in passenger service barely two years. In addition, TWA relegated six other Jetstreams to freight duties beginning in late 1960. Its passenger versions had come off trans-Atlantic routes in November 1961 and flew scheduled domestic segments until the end of 1962. The first to be retired was N7325C, when it became due for its first major overhaul. The last three passenger versions (N7314C, N7318C and N7321C) were withdrawn in March 1965 after seeing limited charter work.

Lufthansa also relegated a pair of Starliners to cargo flying from June 1960, and had retired all four by February 1966. Although Air France pressed some 1049G models into freight hauling, its Starliners did not, and as a result, left the fleet earlier, by the end of 1963.

Unlike earlier models of the Constellation, the Starliner saw no military service. Only 44 were built, versus 121 DC-7Cs, and the last one was delivered in February 1958, only eight months before the start of trans-Atlantic jet service.

All three original Starliner operators enjoyed brief supremacy with their luxurious but expensive investments. The type went on to fly on a second-hand basis with several other operators, but none of the graceful aircraft spent nearly enough time in the air to reach their potential as the ultimate in piston-powered airliners.

Sidebar:

The Hughes Factor

Despite opposition from Robert Rummel, his long-trusted head of aeronautical engineering, Howard Hughes pressed ahead with the Starliner, aircraft that were certain to become obsolete long before they earned enough revenue to justify their \$50-million price tag, at the time a huge sum for a single order.

It was claimed that Hughes had only a verbal agreement with Lockheed President Bob Gross and not an actual contract, while others say that the original 1449 order was still binding. By the time Lockheed began cutting metal, Hughes realized the 707 would catch up with the Starliner by less than two years, but it is said he went ahead with the deal as a moral obligation. Also opposed to the purchase was Ralph Damon, president of TWA at the time.

An incident involving the type would prompt Damon's eventual successor, Carter Burgess to leave the airline. After commandeering a Starliner (N7310C) right off the Burbank assembly line, Hughes flew it to Montreal in June 1957, then on to Nassau two months later. Meanwhile, TWA was losing daily revenue thanks to the Starliner's unavailability. During this time, Burgess kept begging him to return the airplane for TWA's use.

Finally, on October 27, Hughes flew it back, by himself, nonstop from Nassau to Los Angeles. After a long flight across the country, he was forced to circle for nearly two hours because the airport was fogged in. TWA officials, fearing that Hughes would fall asleep, urged traffic controllers to keep talking with him as he circled over the Long Beach Airport, refusing to land there.

Even after returning to California, Hughes kept the airplane out of service and under guard until the disgusted Burgess resigned on December 31, barely a year after taking the job. Records show that TWA actually bought the airplane outright from Hughes Tool Co., but it may well have been tied up until year's end.

