Short Flying Boats for FS2004

freeware aircraft by Jens B. Kristensen, v.1.1, Oct. 2005

by Claudio "Cloudy" Di Veroli, published in PC FLIGHT,
The Official magazine of the "PC Pilots Ireland", Dec. 2005, pp. 73-74

In their attempt to have the history of aviation well represented in FS2004, Microsoft for some reason did not include any flying boat airliner. Those aircraft were a common sight all around the world for almost three decades, well into the fifties. My father as a weekend outing would bring me to the port of Buenos Aires (Argentina) to see the beasts taking off and landing as they connected our capital with Montevideo (Uruguay), about 100 NM away over the River Plate estuary in South America . Everybody still called them "Catalinas", though by that time the Catalinas had all been replaced by Short S.30 Empire C-class aircraft.

Except for the picture with a snowy landscape, the others shown below were taken flowing near a Hawaii Honolulu scenery.

THE DOWNLOADS

The following 4 files are available from www.flightsim.com :

Name: s23_v10.zip Size: 3,991,010 Date: 16-May-2004 Downloads: 3070
Short S.23 Empire Flying Boat. Original short-range version. Imperial Airways and Qantas liveries included. These famous aircraft formed the backbone of the Imperial Airways, its successor B.O.A.C. and its partner Qantas Empire Airways from the mid 1930s and through World War Two. By Jens B. Kristensen.

Name: s30lr_10.zip Size: 3,836,310 Date: 24-May-2004 Downloads: 1903
Short S.30 Empire Transatlantic. Long-range version.
Imperial Airways and B.O.A.C. liveries included. This long-range version of the Empire flying boat was used by Imperial Airways and later BOAC from 1938 through World War Two. This is a complete package. By Jens B. Kristensen.

Name: s30_v10.zip Size: 3,996,770 Date: 20-May-2004 Downloads: 4092
Short S.30 And S.33 Empire Flying Boats. Medium-range version.
Tasman Empire Airways and B.O.A.C. liveries included. These versions of the Empire flying boat were used by Imperial Airways, B.O.A.C. and TEAL from 1938 and through World War Two. This is a complete package. By Jens B. Kristensen.

[Note: An expanded version of the S.30 is now available as empire:v30.zip.]

Name: s23_v11.zip Size: 3,824,949 Date: 02-Oct-2005 Downloads: 358

Revised model, including a new panel and an improved virtual cockpit. The panel is more authentic, with improved gauges, improved layout, background etc. The virtual cockpit is much easier to use. Requires one or more of my Short Empire models: S23_V10.zip, S30_V10.zip or S30LR_V10.zip. By Jens B. Kristensen

SOME COMPARISONS

I have compared the files between the Medium- and the Long- Range versions and, liveries apart, found the following differences only. They are in their aircraft.cfg parameters, therefore the different models cannot be merged into one folder:

Parameters	Long	Medium
max gross weight	48000	46000
station_load.6, Freight fwd.	2000	1000
TOTAL fuel	2500	1500

However, the Manual and panels provided are identical, and most of the text files are identical except for the references to the liveries.

The newly revised v.1.1 model includes fully reworked 2D panels and virtual cockpit. Also, a few bugs have been corrected (e.g. in the original version the provided feather buttons also killed the engine: this no longer happens.)

I have installed and fully tested the Long-range version *s30lr_10.zip* only, both before and after the upgrade *s23_v11.zip.* My conclusions follow.

HISTORICAL RESEARCH AND FLYING MODEL

A large flying boat is something that all flightsimmers should have. Jens has done an incredible work: the research has been very thorough, the aircraft visual finish is of very good quality and the flight dynamics/parameters have been accurately reproduced. A succinct parameter sheet is provided in *Empire_ref.txt.*

The aircraft's exterior is very good and reasonably detailed. Through the windows one can see the passenger seats: a charming detail now usual in the latest crop of FS airliners.

I have tried quite extensively the long-range version. The model flies very well. On take-off run it initially leans on either wing float, then as it reaches 70 MPH the pilot can easily have both floats off the water, finally 1t 115 MPH it requires a moderate pull (or a high elevator trim setting) to take off.

The beast then climbs effortlessly at prescribed 3.0 PSI of boost and 2,350 RPM. To keep a stable 600 FPM climb requires very careful trimming though.

As for all propellers, careful mixture leaning is a must every 3,000 FT of altitude. Once reached a cruise altitude of 8,000 FT (maximum with passengers as the cabin is not pressurised) it is possible to fly economically at 160 MPH with Boost at 0 PSI or faster at 180 MPH with Boost at +2 PSI. Feather buttons are provided for single engine failure. In case of all-engine failure, the aircraft glides very well in spite of its size (optimal ratio about 1:14), which looks pretty realistic due to its very large wing area.

Even with fuel tanks down to 75%, in turns the flying boat feels very heavy, like a 747 say. It also shows some lateral instability: the aircraft tends to start turning left or right unless the pilot constantly applies slight correction with either the elevator or the rudder trim.

From the above it is apparent that the whole flying dynamics feels pretty authentic.

Not everything is perfect however: when taxiing on the water the aircraft keeps accelerating, and if you try to avoid that by carefully bringing the throttle down, there is a point where the aircraft shifts from accelerating to decelerating down to a stop. As a consequence, unlike other FS2004 seaplanes and quite unrealistically, there is no fixed throttle position (or "Boost" value) able to produce any stable taxi speed: one has to throttle up and down, and very carefully, while taxiing.

INSTRUMENT PANEL - 2D

As too often with both freeware and payware panels, these ones also reveal work that is far from perfect. It is claimed that the panel follows ancient photos, though the two versions (1.0 and 1.1) show very significant differences in type and layout of quite a few gauges.

The updated 1.1 version has an onscreen "button" to switch from pilot to co-pilot panel. Even so, many gauges are in a separate engines sub-panel. This is done for authenticity's sake and it was also an easy solution for the panel designer. Unfortunately, three panels are just too many in my opinion: they make flying in Flight Simulator painful, except perhaps for the tiny minority of users with three PC monitors. Further, as for all historic aircraft, the gauges are not that many, and it is perfectly possible to design a single-window 2D panel with everything on screen, as shown further below in the panel designed by myself, crammed but complete.

More seriously, some of the gauges provided did not work, at least in my installation of the long-range version: the RAD temperature gauges stayed at zero no matter what, and the Pitot Heat switch cannot be moved from the off position.

Another problem is the fuel tanks. There are six of them in the long-range version: Left Aux., Left, Center, Right, Right Aux. and Center 2, but during flight this FS model takes fuel from three tanks only: Left Aux., Right Aux. and Center 2. The others stay with their load intact all the time. No tank switch is provided, and I have not been able to find online a suitable one so far.

VIRTUAL COCKPIT

Here also, as too often, the attempt to be strictly historical detracts from clarity. The gauges are too small to be clearly readable, forcing the PC pilot to zoom into groups of gauges. This takes time and detracts from the flightsim experience. The ample space between gauges would have easily allowed to set every single gauge much larger, making them more readable.

CONCLUSION

In spite of its shortcomings, some of which will hopefully be fixed in future versions, this freeware is a formidable achievement by Jens B. Kristensen and other authors who provided gauges etc. These models fill an important lacuna in FS2004 default fleet, which otherwise lacks both large flying boats and four-engine propellers. The exceptional historical and aerodynamic authenticity of Kristensen's model fully justifies all the trouble of downloading, installing and learning to fly these fascinating FS2004 aircraft.