Bellanca Super Viking

For X-Plane 9.70

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Data for this project came from a range of sources including the Pilot Operating Handbook 300A, 1973, the FAA approved Flight Manual for the Viking Model 17-30A and Type Certification Data Sheet No.A18CE

This aircraft is a full object model created using Blender 2.65 and 2.49. http://www.blender.org
Blender to X-Plane scripts are available at:

- http://marginal.org.uk/x-planescenery/tools.html - Blender 2.49
- https://github.com/der-On/XPlane2Blender/wiki - Blender 2.65

Special Thanks goes to:

Danklaue - http://forums.x-plane.org/index.php?showuser=3424 for his awesome video tutorials: http://wiki.x-plane.com/Plane_Maker_Video_Tutorials
Jonathan Harris and “der-On” for their work developing the Blender export scripts.

Modifications including paint designs are welcome however a courtesy email or PM (X-Plane.org) would be welcomed with appropriate credits.

Installation:

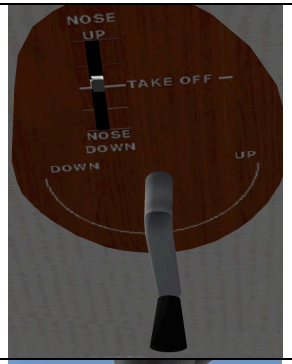
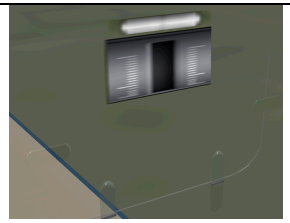
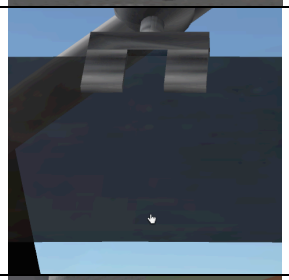
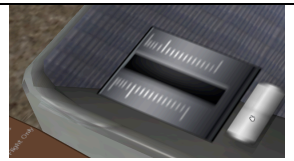
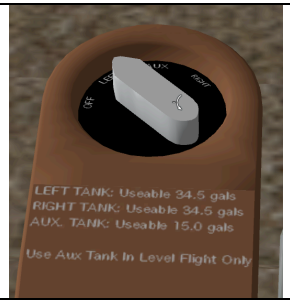
Copy the entire aircraft folder into the aircraft folder in your X-Plane

What’s New?

Everything you see and most of what you can do apart from fly it.

WING FLAPS
THROTTLE QUADARENT
COWL FLAPS
AUX FUEL PUMP
UNDERCARRIAGE
INSTRUMENT LIGHTS
PARKING BRAKE
CABIN/DOME LIGHT
LANDING LIGHTS
NAV LIGHTS
STROBE LIGHTS
BEACON
PITOT HEAT
IGNITION/MAGS
AVIONICS/GENERATOR
MASTER

Trim, Doors, Others

The elevator trim is located in the ceiling between the two front seats. Click on either sides of the centerline to wind the trim up or down.		Storm window slider is on the upper tab for the window. Slide down to open and click on the slider to close.	
The sun visor can be moved up/down on a central slider to the visor.		Passenger Seat slider is located on the left hand side of the passenger seat. When the passenger seat is forward, the slider remains in its original position and is just behind the seat position.	
Cabin and luggage compartment door slider can be seen here (otherwise they are invisible). It is aligned to the door handle.		Fuel tank selector is located centrally between the two front seats.	

Specifications

Type

Four-seat light business aircraft.

Wings

Cantilever low-wing monoplane.
Bellanca B wing section.
Dihedral 4° 30'.
Incidence 0° at root, -3° at tip.
Structure consists of two laminated Sitka spruce spars, mahogany plywood and spruce ribs and mahogany plywood skin covered with Dacron.
Ailerons and electrically-actuated flaps are Dacron-covered wooden structures.

Fuselage

Welded 4130 steel tube structure, covered with Dacron.
Two-piece glassfiber engine cowling, suspended from firewall.

Tail Unit

Strut-braced welded 4130 steel tube structure, covered with Dacron.
Sweptback vertical surfaces.
Trim tab in port elevator.

Landing Gear

Tricycle type, with Auto-Axion electro-hydraulic retraction, which lowers gear automatically during approach if pilot omits to do so, and prevents accidental retraction on ground.
Manual emergency extension.
Nose wheel protrudes slightly to "up" position to reduce damage in a wheels-up landing.
Nose wheel retracts rearward, main wheels forward into underwing fairings, optionally enclosed by doors.
Spring-air-oil shock absorbers.
Main-wheel tires size 6.00-6 6-ply.
Steerable nosewheel, Goodyear type 2-747 hydraulic disc brakes.

Power Plant

One six-cylinder horizontally opposed air-cooled engine (details under model descriptions above).
Two fuel tanks in wings and one in fuselage, aft of cabin, with total usable capacity of 60 US gallons (227 L).
Optional auxiliary fuel tank in fuselage, increasing max usable capacity to 75 US gallons (283 L).
Refuelling points above each wing and on starboard side of fuselage.
Oil capacity 3 US gallons (11.5 L).

Accommodation

Four seats in pairs in enclosed cabin.
Dual controls standard, with brakes on port side only.
Moulded glassfiber door on starboard side of cabin.
Tinted glass.
Baggage space, capacity 186 lb (84 kg), aft of rear seats, with glassfiber external door and in-flight access.
Provision for tube for carrying skis, max weight 20 lb (9 kg).
Heating and ventilation standard.

Systems

12V electrical system, with Prestolite 60A alternator, solid-state regulator and 33Ah battery. Landing, taxi and navigation lights standard.

Dimensions External:

Wing span	34 ft 2 in (10.41 m)
Length overall	26 ft 4 in (8.02 m)
Height overall	7 ft 4 in (2.24 m)
Tailplane span	12 ft 2 in (3.71 m)
Wheel track	9 ft 0 in (2.74 m)
Wheelbase	6 ft 8 in (2.03 m)
Propeller diameter	6 ft 3 in (2.03 m)
Cabin door height	2 ft 10 in (0.86 m)
Cabin door max width	2 ft 9 in (0.84 m)
Baggage compartment door height	2 ft 0 in (0.61 m)
Baggage compartment door width	1 ft 8-1/4 in (0.51 m)

Areas:

Wings, gross	161.5 ft² (15.00 m²)
Ailerons (total)	11.77 ft² (1.09 m²)
Trailing-edge flaps (total)	16.16 ft² (1.50 m²)

Weights @ max T/O weight IO-520

Weight empty	2,191 1b (994 kg)
Max T/O weight	3,325 lb (1,508 kg)

Performance @ max T/O weight IO-520

Max never-exceed speed	196 knots (226 mph; 363 km/h) IAS
Max cruising speed (75% power)	162 knots (187 mph; 301 km/h)
Cruising speed (65% power)	156 knots (180 mph; 290 km/h)
Stalling speed, wheels and flaps down	61 knots (70 mph; 113 km/h) CAS
Vx (best angle of climb)	70 knots (81 mph)
Vy (Best rate of climb)	94 knots (108 mph)
Max demonstrated crosswind component	17knots (20 mph)
Max rate of climb at S/L	1,170 ft/min (356 m/min)
Service ceiling	17,000 ft (5,180 m)
T/O to 50 ft (15 m)	1,420 ft (433 m)
Landing from 50 ft (15 m)	1,340 ft (409 m)
Range, standard fuel, 75% power	521 nm (600 miles; 965 km)
Range, auxiliary fuel, 65% power	755 nm (870 miles; 1,400 km)

Links and Information

http://www.youtube.com/watch?v=hlx9A9Cfu-c (Company advertisement - Video)
http://ensign.ftlcomm.com/planes/bellanca/superviking.html (Aircraft information)
http://www.pilotfriend.com/aircraft%20performance/Bellanca/viking_300_pirep.htm (Aircraft review and information)
http://www.youtube.com/watch?v=QMaBxRgDIPo&NR=1 (Sara's flight in her SV - Video)
http://pinckneyaircraft.com
http://youtu.be/NYYC0-qrsiQ - Pickney Aircraft video mini doc.

History

Known originally as International Aircraft Manufacturing, Inc (Inter-air), Bellanca Sales Company (a subsidiary of Miller Flying Service) acquired the assets of Champion Aircraft Corporation on 30 September 1970. Following the merger, the name Bellanca Aircraft Corporation was adopted, and Bellanca marketed both its own products and those of Champion Aircraft.
In addition to continued production of the four-seat Viking series, Bellanca marketed the two-seat Citabria, a utility version known as the Scout, and an advanced acrobatic aircraft named the Decathlon. A new version of the Scout, designated Model 8GCBC, was nearing the end of its certification program in early 1974. Also under development was a side-by-side two-seat trainer based on the pre-war Aeronca Chief.
Sales during the 1973 fiscal year totaled 671 aircraft, compared with 451 in 1972.

Bellanca Viking Series

During 1973, there were three aircraft in the Viking series, developed from the earlier Bellanca 260C and Standard Viking 300 as follows:

Model 17-30A "Super Viking 300A"

Powered by a 300-hp Continental IO-520-K six-cylinder horizontally-opposed air-cooled engine, driving a McCauley two-blade or three-blade metal constant speed propeller.
A total of 511 were delivered by 1 November 1972.

Model 17-31A Super Viking 300A

This was identical to the foregoing version except for the installation of a 300-hp Lycoming IO-540-K1E5 engine, driving a Hartzell three-blade constant speed propeller.
A total of 102 delivered by 1 November 1972.
A Super Viking 300 delivered on 1 November 1972 was the 1,000th Bellanca aircraft completed by the company. At that time Viking production was at a rate of 17 aircraft per month.

Model 17-31ATC Turbo Viking 300A

This version was powered by a 300-hp Lycoming IO-540-K1E5 engine with two Rajay turbochargers.
This version used a Hartzell three-blade constant-speed propeller.
Deliveries of this version totalled 45 on 1 November 1972.