

## AVSIM Commercial Aircraft Review

# *Lionheart Creations Bellanca Viking Collection*



### Product Information

**Publisher:** [Lionheart Creations](#)

**Description:** GA Aircraft Add-on.

**Download Size:**  
94 MB

**Format:**  
Download

**Simulation Type:**  
FS9 & FSX

**Reviewed by:** [Jason McKee](#) AVSIM Staff Reviewer - August 30, 2008

### Introduction & History

The Bellanca Super Viking and Turbo Viking is a throwback to older times when wood, steel tube and fabric were the main materials of choice for building fast and strong aircraft. But the aircraft are as strong and as fast as some of the more contemporary aircraft made of more exotic materials. To understand the design of the Viking you need to look into the history of the Bellanca Aircraft Company.

The Viking traces its roots to the triple tailed Cruisair tail dragger, which are reminiscent of pioneer Giuseppe Bellanca's early designs. The model 17 was the first Viking appearing in 1967 and was powered by a Continental IO-520-D.

Major changes were few, except for the options on the engine types fitted, the Viking 17-30 was powered by continental engines and 17-31 Super Viking was powered by a 290hp (later 300hp) Lycoming IO-540. The Turbo Viking was fitted with the same engine but has a turbocharger fitted. Electric flaps were fitted to replace the hydraulic flaps that had originally been installed which increased the reliability of the flap system considerably. After 1979, the 17-31 Viking was discontinued. The fuel system was simplified in 1974, which included five tanks and two fuel selectors which gave a total of eight different combinations. The system was changed to a left, right and aux system, this reduced the fuel mismanagement incidents considerably.

The peak of just fewer than 200 aircraft were built in 1973, but bad times were to follow with the Bellanca Aircraft company going bankrupt in 1980. 1984 saw the company start to build aircraft on a custom order basis with only 39 aircraft built between 1984 to 1997. There were two aircraft built in 1998 and delivered in 1999 and 2000. The company went bankrupt again in 2001.

A group of six Bellanca enthusiasts bought the company in 2002 and established the Alexandria Aircraft Co. LLC with the main goal of providing technical support and parts to owners of Bellanca aircraft. The new company also made changes to the type rating to include the newer Lycoming IO-550 engine, thus making it easier for owners to upgrade their aircraft.

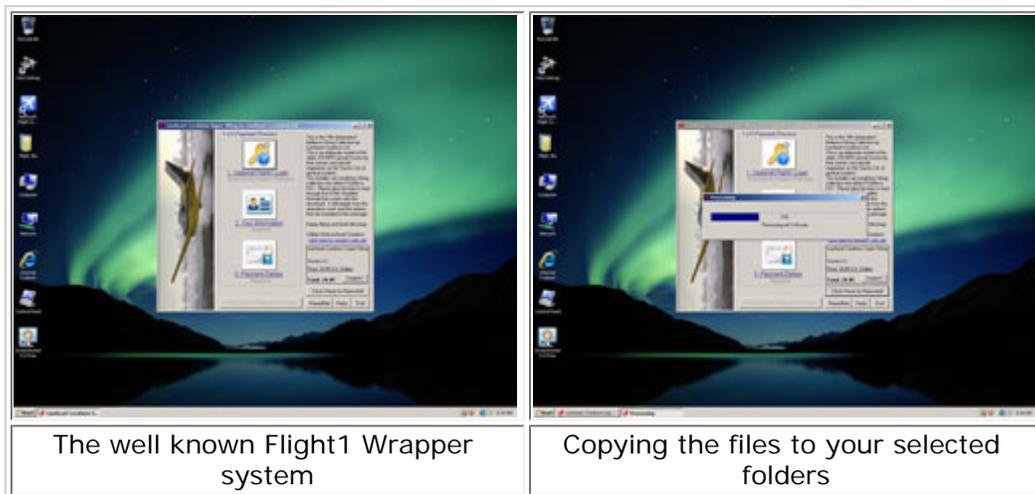
In 2005, the company built its first new aircraft which was an old airframe rebuilt to new standards and included some upgrades including the bigger engine. The new company hopes to build two new aircraft a year and supply parts and maintenance for older aircraft into the future.

The Super Viking and Turbo Viking are fast aircraft, cruising at 174 kts with 75% power. The Super Viking has a ceiling of 20,000 ft and the Turbo Viking has a ceiling of 24,000 ft. Having a wooden composite wing makes for a very smooth and strong wing, enabling the Viking to perform maneuvers that other aircraft cannot, including limited aerobatics, even though they are not certified for them. There were 1,354 Vikings produced.

## Installation and Documentation

You have two choices when you purchase the aircraft, either to pay for it through PayPal or use the well known Flight1 wrapper system. The download is 94MB and includes a dedicated FSX version and a FS2004 version. Following the prompts using the Flight1 wrapper is a piece of cake, you enter your personal details, payment details and you have the option of setting up a Flight1 account, which stores your key files on a server and simplifies reinstallation, if needed.

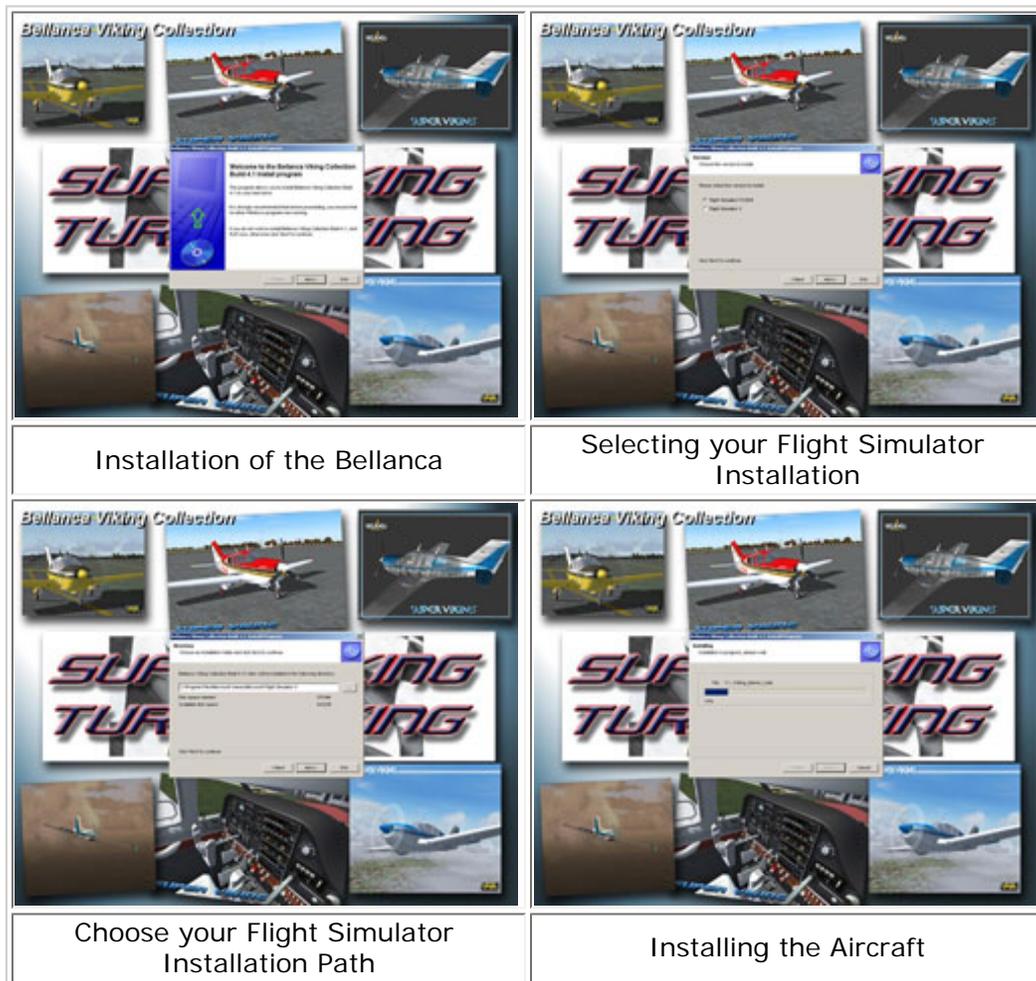
Once payment has been confirmed, the Flight1 wrapper will ask you where you want to create the file to. Once the file has been created, double click on the file and it will take you to the install program. Here you can select the FS version (FSX or FS2004). You cannot do a dual install (FSX and FS2004) at the same time, you will have to run the installer separately to install the aircraft into FSX and then into FS2004. Overall the install process is very easy.



Documentation included is a twenty page readme, which includes a brief history of the aircraft, build notes for the FSX version and build four and build three update notes. Also included is a guide to flying the Super Viking, which

covers some of the unique characteristics of the Viking. There is a cockpit layout guide which is very helpful in guiding you to the trigger points for the animations, checklist PDA/GPS pop-ups etc.

The View System Key guide is very helpful, as version 3 onwards uses unique key assignments for the views in the virtual cockpit, but these views only work in the FS2004 version. Specifications are included for both the Super Viking and Turbo Viking and include almost every figure you could need to know about the performance of both versions of the aircraft and includes information like approximate cruise speeds at certain throttle settings, to calculated fuel consumption in gallons per hour. Things that can be hard to find if you want to know about that sort of information, like I do.



A flight management section covers all aspects of correct operation of the Vikings from take off to landing. I think this is must read, as it gives you a great crash course in the aircraft handling and speeds. This allows you to fly the aircraft properly without much more reading, if you so wish.

Special animations are included in the aircraft and they are described here in the readme and how to activate them, they also indicate which animations are FSX or FS2004 exclusive. Autopilot is covered in detail and this section will allow you to use the autopilot correctly. Radio tuning knob operations are covered and a troubleshooting section should help you solve basic problems like low frame rates and crash to desktop issues.

The airfiles have been tweaked and what was done is described in the readme. Finishing the readme, credits the people who helped create the aircraft and a section about Lionheart Creations.

### Exterior Model

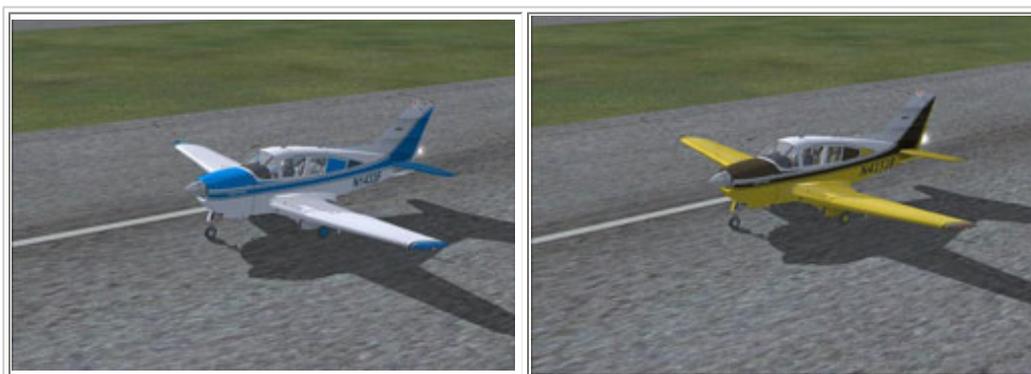
For this review I have mainly focused on the FSX mode, as there has been an excellent review of the [FS2004 version](#) was done by Zane Gard.

The exterior model of this aircraft has been updated since the last review was written. It has been polished and

refined for FSX with bump mapping and, according to the documentation, the mesh quality has been improved. The aircraft looks nice and round, with no sharp edges where there should not be sharp edges. The FS2004 model has also been given the same polish, but due to the limitations of FS2004, it is slightly less polished than the FSX version. The virtual cockpit is a model in its own right and looks just like a well maintained, but well used, aircraft should.

Animations are well catered to and are fluid and smooth. This aircraft is well suited to stunning screenshots in the setting sun, as the light seems to shine and reflect off the curves of the airframe. Differences between the fabric and wood is noticeable, with varying degrees of reflection off the different surfaces. Small details like the pitot tubes and aerials are well modeled and from my references, placed accurately.

Fuel caps are modeled as 3D objects and tie down points look very convincing. Landing gear and gear bay doors are well modeled; even the landing gear indicators are displayed sticking out of the wing when the gear is extended. There is no noticeable frame rate hit from the exterior model and it looks great in the multiple spot views available to you in FSX. There are 12 different repaints included with the package, and with each paint you can choose a male or female pilot.



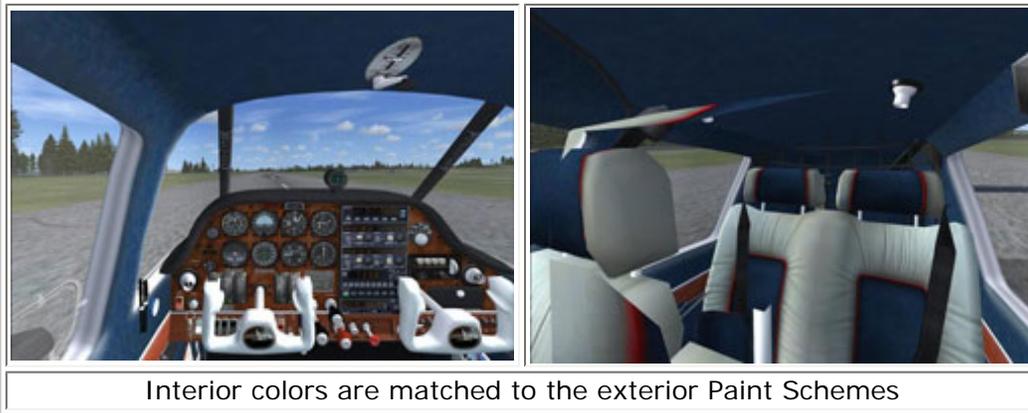


Colour Options

### Interior Model and Panel

The panels of the Super Viking and Turbo Viking are close to a factory produced aircraft with the primary instruments on the left hand side and radios on the right. You can fly the aircraft from the right, but you will be looking to the left at the primary instruments, as with most aircraft of this type. Some of the switches in the virtual cockpit, like the lights, parking brake and landing gear, is hidden behind the yoke, which is a real life problem as well. While in real life you can reach behind the yoke, in the sim you will have to move your eye point or do as I have done, and set some keyboard short cuts. The other option is to use the built-in view options that will change your eye point to view only the radio panel, light controls or the right hand seat.





Animations abound inside the virtual cockpit. If you click on the weather vent window on the pilot's side window, the latches undo and the window opens. To close it simply click on the window again. A click on the pilot's side air vent will put the covers on and tie down the aircraft.

The GPS can be found on a PDA that is kept in the glove box. A simple click on the glove box opens it and the PDA comes out and is mounted in a cradle. Clicking on the PDA screen displays the GPS on the screen. The GPS can be opened in a separate window so you can see it more clearly. Clicking on the oxygen controls will show the oxygen mask on the pilot in spot view; it can be hard to see as it is a modern type oxygen mask that looks more like it should be in a hospital Emergency Room than in an aircraft.

Clicking on the door from the virtual cockpit will open the door so you can get out. The keys in the ignition move with the aircraft and sway very convincingly. All the switches are animated and move convincingly when pressed.

The pilot disappears when the engine is shut down; I think it looks better than having the pilot sitting in the aircraft at all times. Speaking of the pilot, the pilot is changed depending on the aircraft paint scheme; you get either a guy or a gal. The pilots also look around as they are flying, just like you would if you were scanning the instruments and looking for traffic. You get a different interior scheme depending on the outside color scheme. These are very good and suit the exterior color well.





One aspect the new model takes advantage of, is the new lighting effects that FSX provides. The lighting and shadows during maneuvers are displayed on the cockpit and gauges, if you are flying at dusk or when the sun is setting. This gives you a great sun effect and shadow on the panel and gauges. If you have the light bloom and Direct X 10 preview turned on, you will see what you would see in real life. Banking on a standard procedure turn will get the shadows and light playing across the cockpit, again just as you would in real life. It really does add so much realism to the cockpit.



Main exit from inside



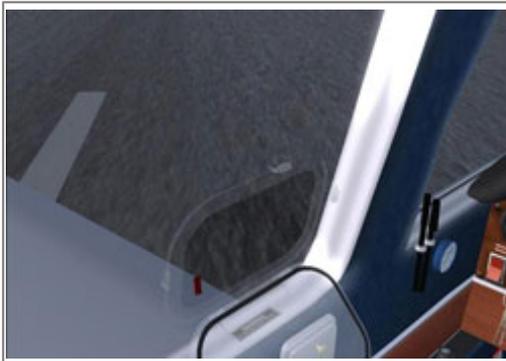
View out of the right hand side



The Sun gleaming of the panel



And light glare on the panel surfaces



Weather Window on the Right Hand Side, which has saved many pilots by giving clear vision incase the windscreen vision is blocked



PDA that is displayed when clicking on the Glovebox



GPS that is displayed on the PDA by clicking on the HP logo



2D Panel is good, but the virtual cockpit is more realistic



Night lighting is subtle but easy to read



The Dome light gives good light all through the cockpit

Night lighting of the cockpit is great, and the problem of the dome light connected to the strobes has been fixed so you can now have the strobes on without having the cockpit dome light on. But, the strobe light switch controls the nav light switch and the panel lights. If you turn on the strobes, you will get the nav and panel lights turned on as well. Switch off the strobes, the nav lights stay on, but the panel lights turn off.

The backlighting on the gauges look great with just the right amount of light to make them easy to read, but not so bright that they dominate the panel. The dome light in the VC illuminates the cockpit in a nice warm glow, which makes the cockpit a nice easy place to use if you cannot find that elusive switch.

There is a very, very small issue with the nav lights. On certain view angles from the virtual cockpit, can be seen them shining through the wing, which you shouldn't see. This is not a big issue but can be a little detracting. This only happens when you do not use the Direct X 10 preview, but you lose the lights on the wings when using it; you also have texture issues on the main panel at night with Direct X 10.

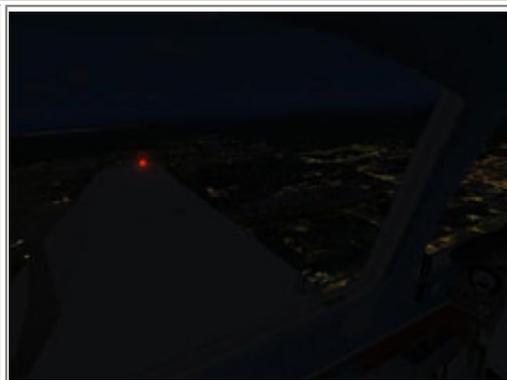
I have been in discussions with the developer and as of this review, we have yet to find a solution to this problem. I have to say that the support from Bill and William has been excellent and very, very quick.



Multipule pop-up panels for GPS, Radios, Autopilot, Fuel guages and Lights



The DirectX 10 panel issue, it only displays this when it is night and when direct 10 is activated in Flightsim



Light that displays through the wing

## Sounds

The sounds of the Viking are realistic, and sound like the recordings I have heard. Not having heard a real Viking in the air or the ground, I can only go on what I have heard of similar engines; and they sound very similar to what the sim sounds like.

Flaps and gear sounds are accurate and nicely add to the cockpit ambiance. Manual extension of the gear goes down with a thunk and they do sound like gear being dropped by gravity. Adjusting the Pitch of the prop gives you a convincing change in the sound, as less air is being grabbed and moved past the prop.

## Airfile

Now the fun part. The airfile of the Viking is a work of art. Yes, I think of airfiles as art. You could almost call airfile modeling the black art, as it takes a lot of work to get an aircraft to fly as it should within the limits of the sim. The airfiles of the Viking are great. It flies within the specifications as published by the manufacturer and websites I have found.



The left hand wing drops when you stall the aircraft clean or dirty.



The Tail Camera, just one of the FSX specific views



Exterior lighting makes for nice screenshots in dusk

The aircraft takes off at just over 80 kts and will climb at 1200 fpm+ in a clean configuration. This aircraft loves to climb; full throttle will have you climbing at 1600 fpm at 100 to 120 kts, depending on weather conditions. It is very easy to trim the aircraft to maintain the climb, or set the autopilot to climb for you so you can enjoy the scenery.

The autopilot will do all that is required. It is not your advanced autopilot, but a general autopilot that you would find on most GA aircraft. It allows you to climb to, and hold, a set altitude or track and fly to a set heading. You can also fly a nav course as set by you, and lastly a back course can be followed.

The Viking has a large tail and rudder, a lot larger than most GA aircraft. This makes for a different challenge when you are using the rudder or landing in a cross wind. You only need a small amount of rudder to counter any torque

effect or crosswinds, but add too much and you can get off course very quickly. With such a big rudder, you do have to be careful or you can get the aircraft out of stable flight with very little rudder input. It can also induce some great smile inducing wingovers as well.

Cruising will see you flying at a speed of approximately 150 kts at a throttle setting of about 70%. This will give you an endurance of about 5 hours. Of course, these vary from person to person and all depends on the weather. The published figures matched closely to what I could replicate in the sim.

The Viking is not aerobatics rated, but that won't stop you as this aircraft loves to roll, snap turn, barrel roll or just generally get thrown around. I had great fun testing what I could do and get away with. Most of the things I tried would get you grounded for life, but you can do what you want in the sim.

When the Viking was getting its type certification, test pilots were doing hammerheads and snap rolls as part of the testing process, and the Viking handled them with ease. It is great fun and very easy to do sharp turns and rolls. The aircraft responds very well to control inputs and recovers very well.



The Cargo Area with oxygen bottles and main doors open



A great aircraft makes it easy to make great screenshots

Stalling the aircraft is hard, but not impossible to do. You will need to hold the nose up, cut power to idle and let the speed bleed off. The aircraft will want to put its nose down, but if you hold it up, it will start to drop its left wing and you will not be able to hold the nose up any more.

Recovery is very easy, depending on whether the aircraft is clean or dirty. If dirty, retract the gear, add full power and drop the nose. When speed is sufficient, raise the flaps and away you go. If clean, just allow the nose to drop and add power; the aircraft will fly out.

On approach, I found the aircraft very easy to line up and hold the glide slope. Reducing the throttle and lowering the first notch of flaps gets the aircraft nice and stable. The vertical speed can be controlled very easily by adding or reducing power. A word of caution, the nose will sink slightly if you add power and rise slightly when reducing power, so it is something that you need to be aware of.

As you follow the glide slope, I have found you will need to have a bit of throttle, about 25-30% should hold about 100 kts. When you lower the flaps fully, you will need to increase power to about 40-50% to hold a steady 80-90 kts.



Flare over the piano keys, cut the throttle and allow the aircraft to gently sink onto the runway for a perfect landing. I was able to replicate this time and time again, you just need to be ahead of the aircraft at all times and a perfect landing is almost guaranteed.

### Summary / Closing Remarks

I really enjoyed flying this aircraft; it is a smooth and fast four seater that has good short field performance. This has become one of my favorite aircraft to cruise around in, and I normally fly

Tied down at the end of a great flight experience

heavy metal.

It flies by the numbers and you can do some basic aerobatic maneuvers if you wish. The Viking is an aircraft that would suit anyone who loves GA aircraft or those heavy metal fliers who want a bit of a change.

The airfiles are near perfect as you could get and there really is nothing that I could find that would stop me from highly recommending this to anyone.

### Test System

AMD Phenom 9850 Quad Core  
4Gig 1033 Ram  
Gigabyte 9600GT 1Gig PCI-e  
Video Card  
Saitek Pro Yoke and 2 Throttle  
quadrants  
Windows Vista Home Premium

#### Flying Time:

20.5 hours

### What I Like About The Bellanca Viking Collection

- Great airfile and very fun to fly
- A lot of livery choices with the standard pack
- Choice of male or female pilots
- Nice animations throughout the aircraft

### What I Don't Like About The Bellanca Viking Collection

- Small issue with nav lights in spot view
- Some DX10 issues

### Printing

If you wish to print this review or read it offline at your leisure, right click on the link below, and select "save as"

[The Bellanca Viking Collection](#)

(adobe acrobat required)

### Comments?

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