

AVSIM Commercial Aircraft Package Review

Lionheart Classic Bellanca Collection



Product Information

Publisher: [Lionheart Creations, Ltd](#)

Description: FS2004 aircraft collection and airport scenery add-on		
Download Size: 48.4 MB	Format: Executable auto install file	Simulation Type: FS 2004 only
Reviewed by: Zane Gard, Jr AVSIM Staff Reviewer - 5 June 2006		

Introduction

William Ortis, the man behind Lionheart Creations, has a lot in common with other FS developers. He has a love for aviation that dates back to his childhood when he would fly with his father to local fly-ins and mingle with other aircraft owners and enthusiasts. He also has had his fair share of experience modeling add-ons for Microsoft's Flight Simulator, making some very nice freeware offerings including a rendition of his father's Fairchild R24, an Aeronca Champ and Clyde Cessna's first enclosed monoplane.

A quick search of AVSIM's file library and you will find his earlier work on historic aircraft as well as a few flights of fantasy including an award winning copy of Bill Lear's last design before he passed away, the Learfan 2100. There were a few prototypes of the Learfan actually built but it never entered production. His favorite aircraft from his youth was his father's Fairchild but he couldn't keep his eyes off of the early Bellanca aircraft.

These unique triple tailed light aircraft make up a unique niche of the general aviation community. While Piper, Beechcraft and Cessna were all designing modern metal aircraft in the 1930's, Guiseppi Bellanca was busy doing things in a more traditional way... tube and fabric fuselages but then mating them to bonded wood wings. The resulting aircraft were very light in weight and their slick designs made them fast in the air. Even the early Cruiseair Junior, with only a 90 horsepower radial engine, would regularly return cruise speeds of better than 135 mph. The true magic though in any Bellanca is the "feel" of the controls, light control forces and wonderfully balanced dynamics. They are true pilot's airplanes and you will find they have a very strong following with their past and current owners.

When Lionheart Creations announced their first Bellanca Cruisemaster release Bill had no idea the outpouring of requests it would generate. There were Bellanca fans all over that wanted their memories brought back to life by way of this sim. So what started as a single model turned into five distinctly different aircraft models each representing the progression of Bellanca aircraft from the 1930's on up into the early 1960's. Due to this demand he stumbled into, and his personal fascination with Bellanca aircraft, he has also released a simulation of the Bellanca Viking which is the model that replaced the Cruisemaster lineup in the early 1960's. The Viking is a separate product to the Cruiseair/Cruisemaster Collection.

Installation and Documentation

You can purchase the Classic Bellanca Collection from Lionheart Creations, Ltd. two different ways. You can use a PayPal account to send money and you will be emailed a download link or you can download the Flight1 wrapper and installer system. Both of these are linked on

Test System

Desktop

Athlon 64 4000
 Asus A8N SLI Premium
 2GB DDR3200
 Windows XP Pro
 ATI Radeon x800 256MB
 21" Sony Trinitron
 1600x1200x32
 14" Compaq V410
 1028x768x32
 CH Products Yoke
 CH Products Pro Pedals
 CH Throttle Quadrant
 Aerosoft ACP Compact

Laptop

Compaq R4000
 Athlon 64 3200
 1GB DDR2700
 Windows XP Home Ed
 ATI Radeon Xpress 200M
 128MB
 15.4" widescreen 1280x800x32
 Saitek ST90 Portable Joystick

Flying Time:

30 hours

Lionheart's site so use whichever is your preference. I got the linked download version of the aircraft though my usual preference is to use the Flight1 wrapper system.

I am not sure about the most recent installer but the early one I had was set to install to the "Microsoft Games" folder and not the normal default "Flight Simulator 9" folder location. I thought this might be an error so I directed it to the "Flight Simulator 9" folder and after installation was unable to locate any of the Bellanca aircraft. An inspection of my "Flight Simulator 9" folder revealed that the installer had installed an additional "Flight Simulator 9" folder within my "Flight Simulator 9" folder and inside that folder were the aircraft, scenery and gauges folders which I simply moved back to the original "Flight Simulator 9" folder location. While this would work fine for a standard installation of Flight Simulator 9 it is not ideal for users with multiple installations like those using Bill and Lynn Lyons' Golden Wings early aviation makeover.

Your initial installation file includes a readme file that does go over the installation process and a brief rundown of the included aircraft, their specifications and a list of animations and controls. There is also a pdf file that details how to operate the GE radiophone that is the primary radio in Cruisair Junior. The readme also directs you to the Lionheart website for the manual which anyone can download to review. This pdf file is actually a photocopy of an original Bellanca Cruisemaster manual and consists of 41 hand-typed pages with black and white photos. This is the information that would have accompanied the original aircraft and does seem stark compared to more modern aircraft manuals.

This early release version had some noticeable differences in the panel layouts of some of the aircraft when comparing the 2D panel to VC's and some labels and handles on doors that didn't move with the door animations. Bill was very quick to fix these and the patch was available the following day. This shows a true commitment to providing a quality product and I

have noticed a continuing improvement of the product with at least a couple more patches released during the review of this aircraft collection.

The Bellanca Field scenery is an optional part of the installation and is placed in your "add-on scenery" folder. It has to be activated in your scenery library for it to work. One of the reasons is this field and the original Bellanca/Downer factory were torn down years ago and only one of the original buildings remains today. Since I have put multiple installations of FS9 (I'll talk about that later) on my system I chose not to activate this scenery in my current FS9 installation but did activate in two of the others.

The Classic Aircraft

The Cruisair Junior is the earliest of the aircraft modeled in this package. Guiseppi Bellanca wanted to move into making a smaller, easier to fly aircraft that would still be comfortable and affordable to buy. This 1936 design finally flew in late 1937 as the model 14-7 Junior with a 70 hp LeBlonde radial engine. The decision was made to install the larger 90 hp Ken Royce engine and the 14-9 Cruisair Junior was born. This was a three place, enclosed cabin monoplane with fixed or retractable gear. This was a conventional gear type aircraft so just the main gear retracted and this retraction was a manual affair. To retract the gear you used a small hand crank that was between and a little ahead of the front seats. This soon was nicknamed the "armstrong type" retractable gear.

The Cruisair Junior was the most successful pre-war aircraft that Bellanca produced. In the 1940's though, the Royce radial engine he been using became unavailable and it was time to move into a newer design. This time with a new flat 6 engine that Franklin Motors had just announced. The larger engine also allowed Bellanca to make the cabin a bit larger and move from being a three seat to a true four seat aircraft. The first of the Cruisairs were released in 1941 as the model 14-12 but US involvement in WWII ceased their production and Bellanca found himself working on Military sub-contracts.

In 1945, Bellanca was able to restart production and with a little larger Franklin engine installed redubbed the aircraft the model 14-13. With the 150 hp Franklin engine this little aircraft was able to move along at 150 mph. The post war aircraft also had a better electrical system, an electric starter for the engine and for the first time an optional electric motor for gear retraction. This was a welcome option considering that it took 32-38 turns of the armstrong type hand crank to retract the fully manual gear. The interiors continued to be more luxurious with mohair fabric and leather, assist ropes for passengers, an overhead speaker (headsets weren't very comfortable or popular back then), and a gas cabin heater.

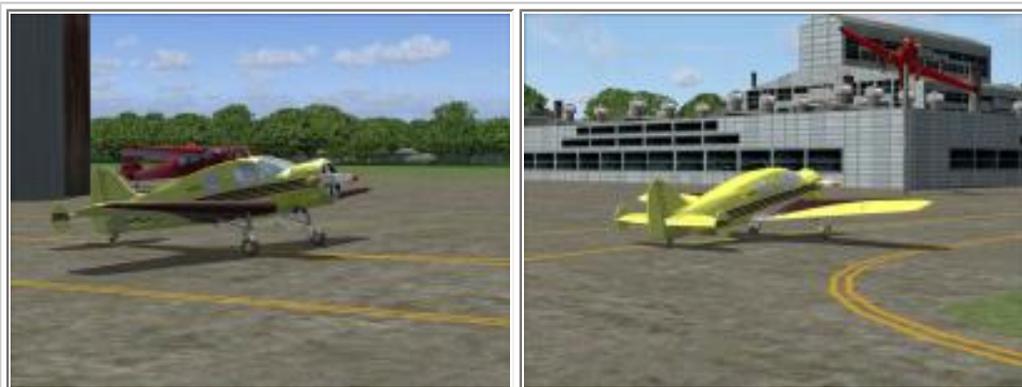
This late 1949 through mid 1950's information gets a little sketchy depending on who's story you read. From what I've put together, in 1949 the Cruisair name was retired and the Cruisemaster model 14-19 started production. With its 190 hp O-435 Continental engine it took a leap forward in speed, a stronger wing and landing gear also allowed for more weight so it could carry more. But the costs were too much for Bellanca and the original company folded in 1951. Northern Aircraft aka Downer took over and in the mid 1950's continued production of the Cruisemaster. You can tell the Cruisair from the Cruisemaster by looking for differences in the cowl shape and the tail end boards, the Cruisemaster having larger tail end boards than the Cruisair. One of the biggest improvements Downer aircraft brought to the Cruisemaster was hydraulic gear and flaps and using enclosed aileron push-pull rods instead of external cables.

The last of the tail dragger Cruisemasters was the model 14-19-2 which used a larger 230 hp Continental O-470. The Cruisemaster series are often referred to as 190's and 230's based on which engine they had. The Cruisemaster had become a real people moving machine consistently returning cruise speeds of close to 200 mph.

1959 brought the very short lived model 260 in which the factory dropped the Cruisemaster name although their owners still refer them as Cruisemasters. This model also ended the long tradition of tail dragger Cruisemasters as it introduced a tricycle retractable landing gear. With

its 260 hp IO-470 Continental it would easily top 200 mph in cruise and had a top speed of 208 mph. These are perhaps one of the most sought after Classic Bellanca's since they combine the classic look of the Cruisemaster with tricycle gear and enough power to give the speed and climb performance of more modern aircraft.

The early 1960's brought the all new Viking lineup. They actually were able to use the same type certificate as the Cruisemaster since they used the same wing and basically same fuselage but with a more modern looking profile and swept back tail. The Viking brought even larger engines, a turbocharged version and of course more speed.



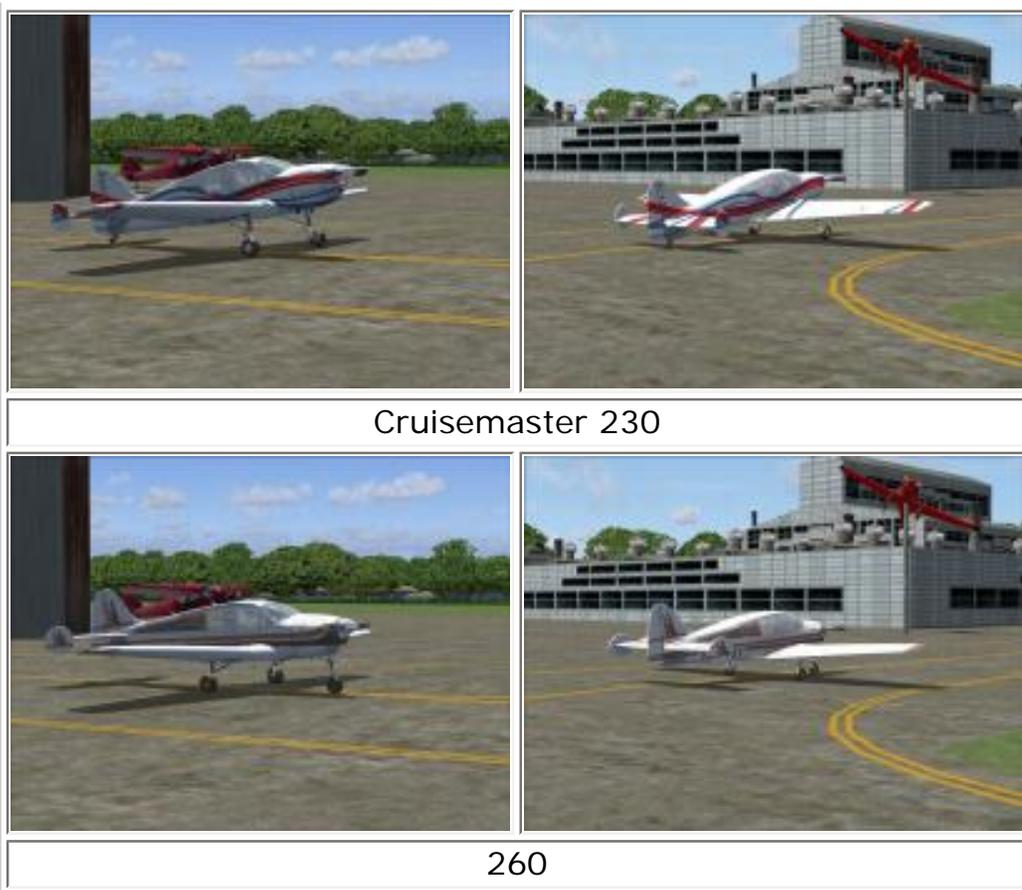
Cruisair Junior



Cruisair



Cruisemaster 190



So How's The Sim Version?

I found all of the models Lionheart created for this package to be very nicely modeled. There are recognizable features making each model distinctly different and have good representations of their respective real world counterpart. The external modeling and texturing look very nice from a distance as well as up close. The inclusion of support cables and braces as well as ribbing for the fabric covered parts all add to a feeling of being able to walk around (or fly around) the aircraft and inspect all its little idiosyncrasies and nuances.

The landing gear is another area where Lionheart did a wonderful job of capturing the mechanical parts involved in the retraction and movement of these parts that's just fun to watch. These aircraft never fully retracted the gear, instead just kind of swept them back (or forward in the 260's case) so they still would kind of hang down in the windstream. The flaps will extend to barn door settings like many older aircraft will, very effective at adding great amounts of drag and slowing the aircraft down for short field work... really bad news if you have to initiate a go around in bad weather.

The interiors are fully modeled and animated. If you are used to and like the work that Bill and Lynn Lyons have done in the past you are going to find that William Ortis' work has a very reminiscent feel to it. If you look over the Lionheart site will notice that both of these Bill's have been doing some work together on an upcoming Kodiak model which should prove to be quite popular for all of the bush pilots out there.

Panels

There are a total of six panel designs included in this set. That doesn't include the many different 2D panel representations that match the external paint schemes. The Cruisemaster includes an early as well as later panel design. The panels use a mix of unique gauges programmed just for this aircraft, some SimTech gauges as well as some default Microsoft gauges. I found that I liked the panels more in the earlier aircraft than the later ones. I found the gauges easier to read in the earlier aircraft and the Microsoft default antique gauges (mostly DC-3) have a better look than some of the Microsoft default gauges used in the newer aircraft.

I do wish that the airspeed indicator had been specifically designed for each of the aircraft. The older aircraft get the DC-3 airspeed gauge and the newer ones use the Baron airspeed indicator, neither of which have the proper speed markings for any of these aircraft. The manifold pressure gauge is only in the later aircraft and is the gauge from the default Baron and is stuck way over on the lower right side of the panel. The photos of aircraft I have come across usually have this gauge next to the RPM gauge in the center cluster. This is something that can easily be changed by an individual owner and in fact the way Lionheart designed the panels, they are easy to get into and make user modifications to whatever gauges and arrangement you would like to use for both 2D and VC panels.

Daytime Panels



Cruisair Junior 2D left and VC right



Cruisair 2D left and VC right



Cruisemaster 190 2D left and VC right



Cruisemaster 230 2D left and VC right, a couple gauges wouldn't show



260 2D left and VC right

I found I really liked the rendition of the GE Radiophone and thought the addition of a setting allowing for a digital readout for easier use was a good idea. I can be forgiving of using default Microsoft Bendix/King radios but some period type radios for these aircraft would have been a nice touch... too bad the default DC-3 doesn't have individual radios modeled, but instead the whole radio panel is depicted in a single gauge. If you could pick and choose some of those old style radios, it would have been nice.

The VC's have good refresh rates. During the development of these aircraft, all the forum talk about a single VC entry in the panel configuration file must have had an affect because all the Bellanca's in this set have a single VC entry. While this is not the only way to get a good gauge refresh rate in the VC, it is an easy and effective one. I found this works fine in the older aircraft since the panel is smaller but in the larger, later aircraft the way this was done makes for a rather grainy appearance to the gauges.

Using the method Microsoft used on their default aircraft (and the newest releases from Dreamfleet and Carenado) where the individual gauges fill the VC panel configuration entry and then the coordinates for these gauges are placed into the 3D VC model would have allowed for a better, higher resolution. That said, it also would have fixed the gauges into their positions making modifications in panel layout more difficult if not impossible. There is a tradeoff for everything... I personally would have preferred easier to read gauges in the VC.

Panels at night



Cruisair Junior 2D left and VC right



Cruisair 2D left and VC right, the lighted area in VC is from the bitmap



Cruisemaster 190 2D left and VC right



Cruisemaster 230 2D left and VC right, light areas mark absent gauges



260 2D left and VC right

You will note that in some of the panel screen shots that a gauge is missing in the Cruisair panel and two in the Cruisemaster 230 panel. I tracked these down to the backlighting bitmap for the Cruisair (the black panel has a cylinder head temp gauge in that location), and in the Cruisemaster 230 it's the VOR head (which should be a default MSFS gauge but the text is misnamed) and a clock which seems to be missing from the included gauges. These are easy enough to replace and I have reported this to William Ortiz so there should be an update forthcoming.

Sounds

There is a distinct sound set for each of the aircraft and they get more and more powerful all the way up to the 260. The 230 and 260 give the best depiction of the "Bellanca Bite" which is the sharp sound the prop will make when using takeoff power and full rpm. In reality this sound comes from the blade tips just breaking the sound barrier and unfortunately is a sign of the prop actually starting to lose a bit of its efficiency. It's what I recall them really sounding like and it has been captured very well and can be heard inside as well as outside the aircraft.

Airfile

Lionheart's most recent update for the Bellanca Collection includes revamped airfiles for all the aircraft which were done by FDE legend Jerry Beckwith. It seems anything Jerry touches flies like the real thing, Flight1's Cessna Skyhawk and Pilatus PC-12 come to mind as good examples of his mastery in this field. Some of these classic Bellancas would be hard to get the opportunity to fly because there are so few flying examples remaining and those that are, can usually be found in an aviation museum. I wish I could say I had a history of flying one of

these beauties but like many I have only admired them in static displays at airshows and I do recall seeing some 260's at airports, but rarely. That also means I haven't had the opportunity to fly in one much less pilot one.

The delightful and quick response that I have read about though, is present in these simulator versions and just enough tricky behavior with the tail draggers to keep your attention during ground operations. Speed envelopes seem to be right on what the book says. Now some of those early books were a bit optimistic for cruise speeds and on the real aircraft you might only see that really high cruise speed on a blue moon in June... flying over a lagoon... listening to a bassoon!

As you slow the aircraft down, and especially in landing configuration, Jerry has captured some of the mushiness in the controls that accompany slow flight very well. Stalls were easily controllable and as I stated in the panel section, I just wish the airspeed indicators were specific for the aircraft so you would have markings that were pertinent for them. Some of the real airspeed indicators on the early aircraft didn't have any markings... you just had to memorize the handbook speeds.

If you have already purchased the Bellanca Collection from Lionheart, I highly recommend you get the latest update so you can enjoy these revamped flight dynamic files. The earlier set were entertaining enough for simming around but were not as accurate for target speeds and I found the yaw response to be way too exaggerated. If you liked flying with the old set you will love flying with the new set! All of the updates have been combined into the current version so if you are a new purchaser you will be getting the full version and won't need these updates.

Now to really make it interesting...

When I installed the Bellanca Collection, I had just assembled a new computer with a 300 gig hard drive... enough space for all my stuff! I personally found flying in these vintage aircraft in totally modern surroundings and utilizing them with my VoxATC program to not really fit in with how I envisioned them. Don't think I'd be all that interested in practicing a SID or STAR around one of the big international airports in one of these anyway. I have had an interest in installing Bill and Lynn Lyons' Golden Wings add-on for some time and this gave me the perfect excuse. What better way to fly around in a 1930's vintage aircraft than in a 1930's vintage simulator!

I downloaded the Golden Wings add-on and followed Bill's detailed instructions on how to install a default copy of FS2004 and then prep it for the Golden Wings conversion. I then proceeded to add all the neat older Lyons' as well as Ortiz's aircraft along with the Bellanca Collection into this Golden Wings simulation. I also added a few vintage airfields designed for Golden Wings including a set designed to allow you to fly the old airmail routes and activated the Bellanca/Downer factory airport included with the Bellanca Collection. I finished it off with the radio range simulation by Dave Bitzer, Alex D. Nicolson, Norman Hancock, Allan Greene and Charles Wood. I have yet to add the radio range equipment to one of the early Bellancas but I plan to.

Now, the Cruisair and Cruisair Junior seem a little more at home flying around other vintage

aircraft, and into smaller fields with little or no radio contact. First, a little short hop from Mills Field (later to become San Francisco Int'l) over the bay to Oakland. This sure would have beat crossing the bridges back then or taking the ferry across the bay.



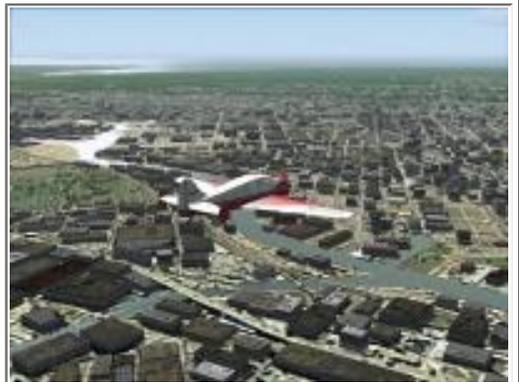
I enjoyed flying the Cruisair Junior so much I decided to take another flight, this time out of North Beach (later to become LaGuardia) in New York. I spotted my friend in his Stinson taxiing out so we took off together, then parted ways as our destinations were different. Flying out over the Big Apple and then out to watch the AI blimps included in Bill and Lynn Lyons' Graf Zeppelin at Lakehurst is really a cool trip. Our return takes us into Flushing, just a little to the right of North Beach on the way back.



North Beach in New York, later to be called LaGuardia



Climbing out in formation with a Stinson, my attention was diverted to the Empire State Building



Now that's a view of 1930's era Big Apple



A nice flyover of the Airship base at Lakehurst from Bill Lyons' Graf Zeppelin addon, the textures don't mate well with surrounding land



Short final into Flushing, those vintage airports are perfect for this plane



Great exterior detailing of the Cruisair Junior, what a neat little plane!

Only problem now was that the later Bellanca's didn't quite feel right flying in either the 1930's or the modern sim world. O.K... another installation of FS2004 and this time it got the Bill and Lynn Lyons' Silver Wings treatment. Now Silver Wings is not as complete a conversion as the Golden Wings set is, so I additionally went to Tom Gibson's California Classics site and added all his 1960's era airports and AI traffic. Now this is the perfect era to fly around in the Cruisemaster and 260. I can recall flying from central California down to Long Beach and Riverside as a kid, so I recreated the flight in the 260 leaving Sacramento and landing at Long Beach, overflying a bit of a simpler LAX on the way. Don't think the security lines were near as long back then!



I'd jump at the chance to go flying



Sacramento early 1960's



Taxiing out in Central Calif. overcast



Aah... finally in the air



Gear up and off we go



Now that's a moving machine



LAX in a simpler age



Short final into Long Beach



Off the active, you can see the old Douglas sign in the background

To top off the testing flights, I went back to the modern era with all my FSGenesis/Holger mesh and Ultimate Terrain/GE add-ons and then hopped into one of the Cruisemasters that is a reproduction of an actual aircraft. N6561N can be seen at Bellanca fly-ins here in the USA and was one of my favorite included repaints.

I chose to fly out of LFRD which is a beautiful smileware release of FlightScenery which gives you a little taste of how good they really are at airport scenery. I planned a flight all the way across France into the Alps to another free release, this time from Neuroflight. Their Courchevel-Pro is one of those hard to find sloping runways for FS2004 and while there are a few well done payware ones out there, this one is probably the finest freeware sloped runway airfield you will find for FS2004. It even includes a feature that would suit the Bellanca field

scenery well, that is a texture switcher that allows you to change the texture set surrounding the airport to match the season you are in. Yes, you do have to run this from the texture folder for the scenery.

I know it would be easier if these airports just did this automatically, but a lot of the programs for manufacturing scenery and airports don't have this ability built in. This business of landing on a sloped runway will certainly test your skill at landing smoothly since even the slightest miscalculation will end up in a truly humbling experience. By the way if you were wondering, my first landing in the Cruisemaster was not successful but fortunately in this sim world a quick slew back to final approach and you get a second chance.





Final Thoughts

William Ortis has created a little trip through the history of Guiseppi Bellanca's aircraft production with his Lionheart Bellanca Collection. I found all of the aircraft to be good, faithful reproductions of their respective originals, each with a little character of their own. There are so many repaints you could spend a day just going through all the included aircraft. I expected the 260 to be my favorite and it is nicely done but I really found the Cruisair Junior was the one I most frequently wanted to fly. I guess that lure of radial engines is pretty strong... especially since this one doesn't leak oil on the hanger floor!

What I Like About the Classic Bellanca Collection

- Nicely done external modeling of each aircraft
- Many working animations including hand crank (armstrong type) for manual landing gear and overhead elevator trim
- Color matched 2d panel graphics to go with different exterior paint jobs
- Some unique gauges including GE Radiophone which has switchable digital readout
- Individual soundsets with that "Bellanca Bite" of the prop when using full power for takeoff
- Nicely modeled VC's to accompany 2d panels
- Very pleasing and accurate flight dynamics by Jerry Beckwith
- Neat rendition of historic Bellanca Field where the original factory used to be

What I Don't Like About the Classic Bellanca Collection

- Odd mix of gauges in some panels with a couple of models not displaying all gauges
- Use of Microsoft default airspeed gauges gives inaccurate speed markings
- Bellanca Field scenery doesn't include seasonal ground textures so looks out of place in some seasons

Printing

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[Bellanca](#)

[\(adobe acrobat required\)](#)

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