

AVSIM Commercial FSX Aircraft Review

Cessna 310R



Product Information		
Publishers: Military Visualizations		
Description: GA twin-engined aircraft add-on .		
Download Size: 97 MB	Format: Download	Simulation Type: FSX
Reviewed by: Mike Cameron AVSIM Staff Reviewer - January 10, 2011		

Introduction

In the spring of 1954, Cessna received a Type Certificate to begin production of the 310, general aviation's most desired light twin-engine airplane. It is a six seat, low wing aircraft and was Cessna's first twin engine aircraft to be put into production after World War II. Production continued on the Cessna 310 until 1981.

Over the years, the 310 has evolved into a larger, more powerful and better performing aircraft with the 310R being the final variant to be introduced in 1975 with 1332 Cessna 310R's being built before production ended in 1981. The 310R featured a 3 bladed prop, lengthened nose with baggage compartment, 5500 pound takeoff weight and had twin 285 horsepower engines. The aircraft has a maximum speed at sea level of 207 knots true airspeed and a maximum cruise speed of 195 knots true airspeed at 75% power at 7500 feet. At 10,000 feet with 1218 pounds of usable fuel the Cessna 310R has a maximum range of 1511 nautical miles which equates to 10.46 hours at 144 knots indicated airspeed.

The service ceiling with all engines operational is 19750 feet and with one engine inoperative 7400 feet. Takeoff performance with 82 knots indicated airspeed, 15° flaps and 5500 pounds of weight, the ground roll is 1335 feet and 1700 total distance to clear a 50 foot obstacle. The landing performance with 93 knots indicated airspeed, 35° flaps and 5400 pounds of aircraft weight has a ground roll of 640 feet and a total distance (over a 50 foot obstacle) of 1790 feet.

Installation and Documentation

The product that I received for review was an unlocked copy directly from MilViz, so installation was very easy. All I had to do was run the setup program, accept the license agreement, verify the correct location of my FSX

Test System

directory, then click install. MilViz sells the retail version through the Flight1 web store, so when you purchase the Cessna 310R there you will need to activate the software using the Flight1 Wrapper.

The excellent documentation is located in the Manuals folder in the Cessna 310R MilViz aircraft folder in the FSX Simobjects Airplanes directory. MilViz provided the documentation location on the license agreement screen and also said to read the manuals before submitting questions to support. I like that MilViz does this because I like to know where the documentation is located without having to search for them.

Documentation includes the MilViz Cessna 310R Pilot Operating Handbook, Garmin GNS 430 Manual, Garmin GNS 530 Manual, Garmin GTX 330 Manual and an EDM700 usage guide. All of the documentation is also available on the Flight1 website and on the MilViz support forum. The first time that you select the MilViz Cessna 310R in FSX, you will be asked to accept a gauge by the FSX Security Warning, select "Run" and select "Yes" to designate the module as "Trusted".

Asus G72GX Laptop
 Intel Core2 Duo 2.53GHz
 6GB DD2 Memory
 500 GB Serial ATA
 HD(5400RPM)
 Nvidia GeForce 260M Video Card
 with 1GB GDDR3 Memory
 17.3" LED-Backlit LCD Screen
 FSX with Acceleration
 Logitech Extreme 3D Pro
 Joystick.
 Saitek Pro Flight Switch Panel &
 Multi Panel

Flying Time:
 25 hours

Exterior Model

Included with the installation are five high quality exterior liveries. More liveries and the paint kit are available for free from the MilViz support forum. All of the exterior textures are excellent looking with wonderful details. All exterior wording is sharp looking and are easy to read, even the individual rivets on the fuselage are three dimensional looking.

Considering that the Cessna 310 has not been produced since 1981, I like that dirt and other markings are included with the textures. I like aircraft that show a little bit of wear and tear to simulate real world use instead of paint jobs that look like they are brand new.

A preflight control panel is included that lets you view the pilot, wheel chocks and pitot/engine covers from the spot view. Besides spot and locked spot views there are three alternate angle views. I liked the landing gear and the tail view the best.



Interior Model

The interior textures are also impressive with some of the best looking fabric textures in any of the virtual aircraft that I have owned. Some of the aircraft have leather seats and these are also very good looking.

Everything in the interior is three dimensional looking including the creases on the seats. What I would like to see is a little more wear and tear in the interior. The aircraft with seats upholstered in fabric has the most aged look with floor boards with some scratches on them and the seats themselves look like they have been sat in a time or two.

Personally, I would like to see some stains to indicate some real world use. Again, this is a personal preference and does not take away from a very well designed interior. As far as I can tell cabin lighting is not included with this aircraft. I read the manual completely but could not find a switch for cabin lighting.



Sounds & Animations

The sound effects were recorded from an actual Cessna 310R owned by one of the testers. In a word, the sound effects are awesome! To understand how realistic the sound effects are, there is an odd sound effect that happens every several seconds. This sound is caused by an old style door seal motor that developed a pin hole in the air line of the door seal.

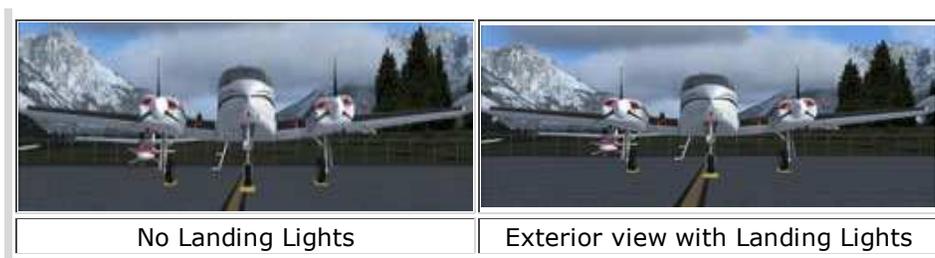
What is happening is that the motor shuts off when it detects sufficient back pressure from the seal and when the seal leaks air and goes below that back pressure the motor turns on just long enough to restore seal pressure. The side effect of this problem is that the motor will eventually burn up. While I was working on this review, I was looking at the MilViz support forum and the owner of the aircraft that this product is modeled from, reported that this old style door seal motor did burn up and he replaced it with a new hand inflation pump which uses the same exact hand inflation pump used on blood pressure cuffs.

With the new hand pump installed, the odd sound has been eliminated since there is not a motor installed. Hopefully with a future update, MilViz will eliminate the sound effect caused by the motor. Although I do not know how they will simulate the hand pump operation.

All other sound effects are as impressive from the clicking of switches, flaps & gear being extended and retracted, master battery & fuel transfer pumps, avionics master (spooling up and down), auxiliary fuel pump switches (different sounds for high & low), fuel primer and finally the main door seal with both inflating and deflating sound effects. The engine sounds are so good; I can understand why real world pilots wear noise cancelling headsets because these engines are loud. The recommended sound settings are 50% with a voice setting of 75% to be able to hear ATC over all of the various sound effects.

All animations are included that you would expect from a high quality aircraft add-on. Everything from the control surfaces to all of the doors that can be opened (including wing cargo doors) all look very realistic. My favorite animation is the landing gear. Another animation that is very cool is the landing light. The landing light switch has three settings: off with lights hidden in the wings, extended from the wings with lights off and finally landing lights on.





Panel & Systems

Unlike most flight simulator aircraft developers, MilViz has included very nice 2D panels to go along with the three different 3D Virtual panels that are included with the package. Two of the included aircraft feature 3D Analog Instruments with a Garmin GNS 430 & 530 GPS, Bendix-King KAP-140 Autopilot and Garmin GTX-330 Transponder installed. One aircraft has a Garmin G1000 glass panel system with the KAP-140 autopilot and the final two aircraft are called Free Radio and have the default FSX radios and GPS 500. All of the panels can be customized with your own instrumentation. After completing this review I am going to replace the default GPS 500 in the Free Radio panel with a Reality XP GNS 530 that I own.

All of the panels in both the 2D and 3D versions are of excellent quality with clear and easy to read instrumentation. Wording on the panels, including words with small lettering, are readable without becoming blurry even when zoomed in close. There are several alternate views (right seat, fuel selector, lower panel, throttle quadrant and middle left seat) as well as some 2D popup panels (GPS & radios, throttle, copilot, engine panel and electrical panel). I flew all of the aircraft and my personal preference was the 3D Analog panel because for me it was a more natural fit for an aircraft that is this old. The glass panels are nice because they are larger and can display more information including AI traffic.

In order to get the most out of this aircraft, I recommend reading the excellent documentation. This is the best Pilot Operating Handbook for any general aviation aircraft that I own. Most documentation for FSX GA aircraft is minimalistic at best, sometimes with only a one page picture of the panel layout and written documentation with only the operating checklists and aircraft performance data. The MilViz Cessna 310R Pilot Operating Handbook describes the instruments in detail including how they work and which aircraft systems control each instrument. Since some of the instruments are standard and are installed in most all modern aircraft, this is very good information to know. The other included documents are for the Garmin 430 & 530 GPS, the Garmin GTX-330 Transponder and the EDM 700 Digital Engine Temperature Gauge.

All switches and systems that can be modeled in FSX are functional with many switches that have multiple settings instead of just being off and on. The GPS 430 & 530 are based on the default FSX PS 500 database with new capabilities programmed into the unit to provide a more realistic experience than the default GPS. The one instrument that took the most time for me to get used to was the Bendix-King KAP-140 Autopilot.

In order to fly at a certain altitude, you enter the altitude, set the desired vertical speed and when you reach the assigned altitude, make sure the vertical speed is set at zero then click the Altitude function on the autopilot. Unfortunately, when manually flying the aircraft, the autopilot did not want to hold the assigned altitude.

I found out on the forum that the KAP-140 will not allow ALT Hold without an active roll mode (HDG, NAV, APR or REV) selected. This is how the real world unit is configured which makes for a realistic experience, but for me took a little time to get used to. The Free Radio panels with the default autopilot will allow holding the assigned altitude without an active roll mode selected.





Flight Model

I like to start the engines using a proper startup procedures (verses the FSX shortcut) by using the checklists at first, then from memory after several flights. Since this is a twin engine aircraft the startup procedure is slightly more complex but I did not have any issues starting the engines using this technique.

The MilViz Cessna 310R has realistic flight dynamics and systems, so if this is the first time flying a twin engine aircraft I advise you to read the included documentation before attempting to fly this aircraft on the most realistic settings. If you already own other complex twin engine aircraft, the learning curve for operating this aircraft will be less.

Another recommendation that I have is using hardware to control both engines and prop settings. I have a single Saitek Throttle Quadrant, so what I did was map the right engine throttle to what used to be the propeller pitch control on the quadrant, so my hand covers both control's and this makes it easy to control both engine's throttle. I controlled the propeller pitch and engine mixture for both engines using buttons on my Logitech Extreme 3D Pro Joystick with propeller and mixture controls for both engines linked in FSX. Unless your joystick has a lot of buttons grouped together, linking both engine controls is important to make operating these controls less complex. It is possible to operate the engine controls using the mouse, but it could prove difficult to control both engines and also takes away from the experience.

I already mentioned owners of other complex twin engine aircraft, but if you are comfortable flying a high performance single engine aircraft such as the Beechcraft Bonanza, you should not have any problem flying the MilViz Cessna 310R. This aircraft is an absolute joy to fly. The controls are very responsive and when hand flying the aircraft, it is easy to trim for climb, cruise and descending. When first starting to fly this aircraft, I had a tendency to land too fast but after several flights was able to master landings.

Another thing to keep in mind when flying long cross country's is to remember to switch from the main fuel tanks to the auxiliary fuel tanks at the recommended time into the flight as per the operating checklist and returned to the main tanks for descent and landing. This is just one example of how realistic the flight model and aircraft systems are on this aircraft. If you take the time to read the included documentation and learn to fly the 310R in the most realistic way, you will be rewarded with very enjoyable experience.



Summary / Closing Remarks

For their first general aviation aircraft, MilViz has produced an excellent product with the Cessna 310R. Everything about the product is wonderful, from the included documentation, incredible looking exterior & interior textures, and awesome sound effects to the very realistic flight model and aircraft systems.

If you are in the market for a twin engine aircraft for FSX, you will be very happy with the MilViz Cessna 310R. Even if you are new to operating a twin engine aircraft, as long as you take the time to read the documentation and practice flying the aircraft using reduced realism settings or use the Free Radio panel option, you will be rewarded with a wonderful & fun to fly aircraft.

What I Like About The Cessna 310R

- Accurate Flight Model
- Realistic Aircraft Systems
- Three Different Panels to Choose From
- Excellent Looking Exterior & Interior Textures
- Realistic Sound Effects
- The Best Documentation For Any GA Aircraft that I own
- 2D Panels Included

What I Don't Like About The Cessna 310R

- Would Like To See More Wear & Tear With The Interior Textures

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(adobe acrobat required)

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