Introduction

This week, an unnamed customer in the Middle East placed an order for a single Airbus A380 to be kitted out with a VIP interior. The rest of the world can only sit and dream of owning something like that. The private jet, no matter how large, is the ultimate statement of wealth and/or power. With famous personalities such as the President of the USA cruising in Air Force one, John Travolta hopping from country to country in his 707 and countless others using personal jets to show not only who they are, but how much money they have. Roman Abramovich, Bill Gates, Tom Cruise and Dale Earnhardt Jr are also a few names to add to the list.

The dream of owning a personal jet for your own private use became more possible than many imagined recently with the concept of the VLJ, or Very Light Jet. The aircraft fills the market gap between personal propeller aircraft (ranging form Cessna 150’s up to Piaggio 180’s) and the smallest private jets, offering a Cessna sized aircraft that can operate alongside the commercial airliners. And they are affordable. The top models can cost as little as 2 Million USD.

And so it comes as no surprise that these jets have come to FS. Commercial Level Simulations have developed this jet, and Just Flight has published it. It’s a big change for CLS, who until now have only really made huge aircraft, the A300, the Beluga, and the A340. The aircraft comes as part of Just Flights ‘F-Lite’ range, keeping in line with all of CLS’s product. The aircraft is advertised as easy to fly, with no complex systems keeping you on the ground for hours.

Installation and Documentation

It comes as no surprise as a long time Just Flight user, that the installation was a completely painless procedure. The DVD spins, you choose which simulation you would like to install the aircraft to, and you install it. Unfortunately, there is no option to choose which liveries you would like to install. However, I feel this is unnecessary with this add on, because unlike actual airline liveries, it doesn’t matter which scheme you are flying with in which part of the world.
The package comes with a manual featuring 26 pages for each of the 3 languages that it is written in; English, French and German. The bulk of this manual is an excellent tutorial on the main features to get you flying. Although the F-Lite range is not supposed to take any study to fly, the Flightmax EX5000 and G500 are very daunting instruments, and had me flinching at the amount of information displayed! The tutorial mainly covers radio and autopilot operation, but features a wealth of flying tips such as the invaluable advice to use only 75% N1 on takeoff.

I have noticed some errors time and time again, ever since the first Just Flight manual I read. Although I cannot speak for the French and German language sections, the English language section has a few errors that could be misleading, particularly the FAQ’s, where it asks questions about the Airbus knobs, the auto brakes and the FMC, all of which the VLJ does not have. There is also a section of FAQ’s in regards to the payable downloads – useless in the printed manual because the product was shipped on a CD. Although a few errors are acceptable in a manual the size of the ones provided with 747-200RFPB or C-130 Hercules, in a manual of 26 pages there should be no excuses for these obvious errors.

Of course I cannot put an F-Lite product down just because of a poor manual, mainly because the manual isn’t necessarily needed, but also because the data within the manual isn’t incorrect, it’s just referencing to something that isn’t there.

Outside the Jet

The first time I selected the aircraft within FS2004, the sim crashed. I was alarmed as it stopped me flying. I posted a message about it on Just Flight’s forum and by the evening I had a message from Richard Slater asking if I could help them fix this problem that was known to them. Hundreds of emails and much testing of various new gauges later, CLS had a fix, and I was flying again. The patch is not essential, and stops the brightness controls on the 2 glass displays from working. (Not much of a loss as I have never come across anybody who uses these anyway)

After loading up, I was very impressed with the external model. It is clearly based on a real world VLJ, the Eclipse 500, although due to licensing and copyright issues neither CLS nor Just Flight are allowed to state that it is the 500. The similarities are there though, and if it was supposed to be a direct model of the Eclipse 500, then I would happily say that it is a very accurate representation.

As is usual with CLS products, the model comes with a number of animations to bring the aircraft to life when it is on the ground. With the engines off you will see the control surfaces droop due to the lack of hydraulics. Opening the door will make a couple of wheel blocks appear and using the tailhook key (or a button inside the aircraft) will open up the pods on the wing and the engine covers for maintenance! The really impressive animation comes with the wing fold key, which will lay out a red carpet and bring on a refueling truck. It also puts a person on the stairs, carrying two suitcases, presumably a passenger.
animation – so you do not always have to have her there. She will also hover in mid-air if you shut the door whilst the refueling truck is displayed.

A pushback tractor (because a truck is too large) will appear when you press the SHIFT+P key. This is not optional, however the jet can operate in a very small space and most of the time I would start the engines and turn around under my own power.

Animations are very smooth, and the spoilers and gear retract and extend in a fluid motion. At night, I did notice that the taxi lights are slightly off the aircraft's body and create an effect that there are floating lights. These are the only lights that cause this effect, and the others bring the aircraft to life from the outside.

Many different paint schemes are included, whatever your taste may be, and if you don’t have a particular favorite an all-white paint kit is provided for you to create your own. One feature I particularly liked on some of the liveries was the registration. On the default model, registrations are changed by choosing a new one in the aircraft name box (in the select aircraft menu). on only one other non-default aircraft have I seen this implemented, and full credit goes to CLS for adding this in – as it doesn't stop one livery looking out of place in Australia due to its “Golf” registration – you can change it according to the country you are flying in.

In The Lap of Luxury

Of course, as with any aircraft you have, you spend the most time within the aircraft. The changeable registration has also been implemented on the panel, and whatever registration you choose will appear in bold white capitals in the centre of the panel.

Because this aircraft is far from the size on an A380, the aircraft is extremely small inside. There is a very small amount of space between the pilot and the co-pilot and the cabin, filled with 6 seats is not one that you can get up and walk about in. If you do want to move, there is plenty of space however as nobody is there!
This is a case where it would have been nice for Just Flight to help CLS out by providing some of their excellent person models we saw in Flying Club and the 300CBi. All loading is done within FS via the fuel and payload manager, but it would be nice for this aircraft to have a load editor, which would adjust the number of figures that appear within the cabin.

In its appearance, the VC is very clean and tidy. There are no random panels dotted about, and the ease of use is reflected completely. The central console houses trim knobs, spoilers and flaps, and the overhead panel houses the engine start switches. Everything else is on the main panel.

Control comes airbus style – two side sticks for the pilot and copilot. Because of the nature of the simulation, there is no need for safety systems, and many gauges and buttons that you might find on a Cessna Citation, or a BBJ, are not found here, such as engine fire handles, and oxygen level indicators.

**Systems Onboard**

What makes this aircraft really fun to fly though are the PFD and the MFD. These systems, based on the FlightMax Entegra and EX5000 and including a fully integrated Garmin G500 (the default GPS) make the aircraft fun to fly for those who love pushing buttons, and for those who just want to bang open the throttles and go.

As I have mentioned, the tutorial provides the ultimate introduction to these devices, and even to the most experienced simmer, I would say that you have to fly this short lesson before you start using the VLJ by yourself. Mainly because none of the buttons on these devices are labeled. This can make it very hard to fly if you do not have tool tips enabled – and you will have to spend a relatively short amount of time getting to grips with what each button does.

Should you be having troubles with frame rates, CLS have included some click spots above the MFD that allows you to hide some of the instrumentation. This is done in 4 sections, allowing you to keep whatever gauges you need to fly with. I highly doubt that you will ever need to touch these however, as the VLJ is extremely good on frame rates, and at worst will have the same impact on the sim as the default types.

There was slightly more of an impact on frame rates in FSX. However this may have been observed because my system is not the best for running FSX, and the fact that I have not spent much time tweaking the settings after installing SP1. The aircraft was still very flyable and I know that it will prove no problem for users who have decided to switch to the new sim full-time.

Pop-up’s of the 2 main glass panel sections are available, and I used them frequently when flying. I did notice that the GPS unit on the MFD had a bug. If I were to change some settings in one possible place (either the 2D panel, the zoomed MD, or the VC), such as the terrain contours displaying, then they would not be changed in the other two areas (so if I changed a setting in the VC, it would not appear changed on the 2D panel.)
On the PFD (in particular the compass), it is possible to display as little or as much information as you would like to. You can set it to show your route as displayed on the GPS, your tuned VOR or ADF or you can just leave it blank if you want. It also contains knobs to change your selected altitude, selected heading and climb speed – all of which I found myself using more than the knobs on the autopilot panel.

The autopilot, which like the 2 glass displays can be zoomed, is very easy to use and is almost exactly the same as the default jets in functionality. I did have one problem with it however, and that is the auto throttle, which is nigh on useless. At higher altitudes it would always fail to reach my selected mach number, and when descending it would never throttle back far enough to slow down. Most of the time I found myself using the throttles manually, which can actually be quite fun, but may prove harder for users without precision throttle control hardware.

A further issue with airspeed was the lack of a mach speed indicator. Although the aircraft can be set to hold a mach number, there is no indication of exactly when to change to following the mach number. I found that the panel was also missing a clock, not an essential FS gauge by any means, but one that should not have been overlooked as it rendered the ETA time on the GPS useless.

**Sounds**

The engines are based on the same engines powering the Eclipse 500 – the Pratt and Whitney PW610F. Developing 950 lb of thrust each, they offer the aircraft the ability to fly from very short strips – 2500ft to be exact. Because very few aircraft are currently buzzing around with these jets installed, the sounds had to be semi-guesswork.

But I cannot say I was disappointed. The sound you would expect to hear comes out and is very loudly at that. Listening to the engines from the inside makes them seem a little loud in comparison to many BizJet’s. However, what you have to remember is that the nature of a VLJ does not allow for as much soundproofing as you might expect to find on a Citation X or a commercial airliner. The pilot is also a lot closer to the engines.

The only sound I would have liked to have heard that was missing would be a ‘minimums’ call out. There is a minimums gauge on the panel that flashes when you reach the height, but I found myself ignoring it more often than not.

**Two Words: “Pocket Rocket!”**

When this product was being previewed on the Just Flight forum, one of the crewmembers who was testing it at the time posted that this thing was a “pocket rocket”.
Sunrise on the VLJ. I prefer flying this aircraft during the day. A fun aircraft to fly in anyone's book!

Pulling away from the runway fighter style.

Well, since my first flight I cannot say otherwise. This thing will just launch off the runway if you push the throttles forward and let her go. Although 1900lbs of thrust is not much in comparison to a Boeing 777, the thrust to weight ratio, even at MTOW, will cause you to be pinned back in your virtual seat. For this exact reason, the manual suggests using a reduced takeoff thrust setting of 75-80% N1 – which as I said earlier, is invaluable information, as it is far easier to control your takeoff (as well as monitor all the systems) as you accelerate to speed.

Once in the air, the aircraft remains as much fun to fly as it was to takeoff. Flying the aircraft will not throw you any unexpected surprises and I found myself flying this aircraft by hand quite often. This is particularly useful as due to the capability of this aircraft and where it can fly, visual approaches are far from a rare occurrence, and having the confidence that it won't suddenly drop out of the sky is essential. CLS have done a superb job of giving the pilot nothing to worry about, and even down at super slow speeds I found that I would be aware of any possible stalls before they came.

Because of the jet engines, this aircraft can easily fly into major internationals, or small rural strips.
Only when the aircraft started getting higher in the atmosphere did I start experiencing problems. Although the manual states that the aircraft is capable of 41,000ft, I am yet to take it up to that altitude as I find that the aircraft struggles to maintain speed once above about 18000ft. The only way I could accelerate and maintain mach speeds at 25,000ft would be to manually control the throttle and force the engines into the red, and accelerate – thus using more fuel than necessary and (although failures are not modeled) break safe operating guidelines.

Summary / Closing Remarks

Considering that I enjoy sitting on the tarmac before a flight and pushing all sorts of buttons, I wasn’t expecting to enjoy this aircraft. But I have been proved oh-so wrong. Although this has not become my instant favorite, I’m certainly going to be making many more flights in the type before a version of FS comes along which this aircraft is not compatible with.
CLS have done a wonderful job and despite a few things that could, and should, be added (mach indicator, clock and labeled MFD buttons) this aircraft is fantastic fun to fly. If you are a simmer who loading up the sim and likes banging the throttles open, then this aircraft will make like its flight dynamics and shoot right to the top of your favorite aircraft list.

I hope that CLS take on more VLJ’s in the future. The balance they struck between system functionality and ease of use was perfect onboard this one.

**What I Like About The VLJ Business Jet**

- Exterior animations add life to the package
- Changeable registrations on many of the liveries
- Flight dynamics (very easy to fly by hand – at any speed)
- Tutorial in the manual helps you get to grip with the aircraft easily.
- The ease of use.

**What I Don’t Like About The VLJ Business Jet**

- Auto throttle system often left me controlling thrust manually.
- Some useful gauges seem to have been left out (most predominantly a mach airspeed indicator)
- Empty Virtual Cabin
- No external power (battery runs dry very quickly)
- Hardly any labeling of what the buttons on the PFD and MFD do.

**Printing**

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**VLJ Business Jet**

(adobe acrobat required)

**Comments?**

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