AVSIM Commercial Aviation Review

FSD Piaggio P-180 Avanti





Rating Guide			
	Publisher: FSD International		
	Description: FS2004 Aircraft		
	Download Size: 21.6 Mb	**Format:** Downloadable	**Simulation Type:** Aircraft
	Reviewed by: *David Swindle*		
	Possible Commercial Rating Score: 1 to 5 stars (with 5 stars being exceptional)		



Introduction:

The Piaggio Avanti is a truly unique aircraft with a rough past. Originally a joint project between Lear and Piaggio, the project almost died when Lear backed out in 1986. Piaggio carried the project through and got the aircraft certified for single pilot operations in the US. The Avanti was sold by Piaggio in the US until 1993, when Avanti Aviation went bankrupt, which killed the program in the US. The Italian Government ran the remains of Avanti Aviation until 1998 when Piero Ferrari (son of the legendary car maker) bought the program with a group of investors and founded Piaggio America.

Part of why the program failed initially may be related to the Beech Starship. The Avanti looks somewhat like the Rutan design, and the Starship's reputation for being heavy, cramped, slow and loud certainly didn't help the Avanti. This issue was compounded by the fact that Piaggio was slow to address maintenance issues and had no support center on this side of the Atlantic, which also didn't help the Avanti.
Today, Piaggio Aviation still makes the Avanti, and for the time being, they seem to be doing fairly well. Although I couldn't find exact figures, it seems that there are fewer than 70 Avantis in the US, so they remain a fairly rare breed.

Despite not doing terribly well in terms of business, the Avanti is a very unique aircraft that combines unmistakable looks with high performance and efficiency. The P-180 is a twin turboprop that can cruise at almost 400 KTAS and do so up to 41,000 feet. This mean that the Avanti can cruise 100KTS faster than a King Air, and it is also faster than some business jets. What makes those performance figures so impressive is that the Avanti sells for about 5 million dollars (much less than entry level jets), possesses a cabin larger than most small jets, and even with performance very similar to that of a jet, it uses about 30% less fuel and about 20% less than many turboprops. The Avanti also backs up its numbers with good looks. The Avanti has a graceful fuselage that, due to the forward wing, bears a resemblance to a catfish. Although the fuselage shape is complex, the Avanti is mostly

aluminum with the nose, tailcone, and leading edges of the main wing being composites. The P-180 gets its lift from four surfaces with 25% coming from the forward wing (not a canard since it lacks control surfaces), 45% from the main wing, 10%from the tail, and the last20% from the fuselage shape. The Avanti is powered by a pair of 850SHP flat rated PT6 engines that spin five bladed, reversible pitch propellers, which provide a lot of its stopping force as the aircraft lacks spoilers and anti-skid braking.

Installation & Documentation:

In an age of ever more complex anti piracy measures, FSD has made buying and installing the Avanti almost idiot-proof. The product is available only as a 21.6 MB, $24.95 download, which means that even those who are still on dial-up can enjoy this product (and the dollar pricing is nice for Americans). The small file size relates to the fact that there is only one paint scheme installed by default, but 30 more are available to download at between 3 and 5 MB each. After downloading the file from your E-mailed link (turn off your firewall first), you run the .exe, put in your order number and password, and after a brief authentication process, the Avanti is installed.

After installing the base pack, you need to run the load manager. The load manager (as the name implies) lets you add and remove passengers and baggage from the plane outside of FS (changing anything necessitates refreshing the aircraft in the sim), and it also does much, much more. The load manager allows you to set operating “costs” for the Avanti and also to fix the engines if you manage to kill them by running them too hard or not getting work done at the recommended 25 hr intervals. In addition to paying for and fixing things, you can also use the load manager to set how real the flight model is (I don’t understand exactly how this works with the realism sliders in FS, but it does work well).

Before you play with the load manager, you need to read the manual. The documentation consists of a .Pdf devoted to the load manager, and an HTML that uses .Pdf’s which covers everything else you need for the Avanti. The manuals are well written and contain lots of pictures, diagrams and charts to help explain some of the more obtuse parts of the Avanti’s systems and flight procedures. The only gripe with the manuals is that the imbedded .Pdf’s are shown in a small window in IE, which makes for lots of scrolling to read.

Visual Model & Textures:

Since the Avanti looks so weird in reality, it must have been a challenge to model, but the FSD team has produced a truly stunning rendition of the aircraft for those of us without an extra 5 million dollars to buy a real one. The Avanti has very few straight lines on the outside, and the virtual version captures everything from the rakish nose to the “backwards” engines perfectly with no seams or jagged polys visible. In a testament to the FSD guys, the model even looks superb at very close distances when using Active Camera. The moving parts are also superbly built and all of the details of the strange moving parts on the Avanti (most notably the flaps on the forward wing and the main gear) move equally smoothly and strangely in the sim.

Since the Avanti is both rare and very odd looking, it is not surprising that real world Avantis sport some of the most unique and flashy paint schemes in today’s skies. The base texture is an almost depressingly restrained blue on white affair, but it still looks darn good. All of the panel lines and gaps on the real Avanti are faithfully reproduced here and are further enhanced by a perfect amount of reflections and dynamic shine. It is after downloading some of the 30 available add-on textures that one fully starts to appreciate the talent of the painters at FSD, as well as the 3rd party painters. The downloadable schemes cover most of the outlandish paint jobs on real Avantis as well as some truly amazing fictional liveries. Although all of the textures are great, I personally love the Russian livery, which has to be one of the most original textures in FS. Although there is a lot of detail on both the model and textures, they are surprisingly easy on frame rates and although they dropped my framerate by a couple of FPS, the framerate was rock steady and never got low enough to be noticeably choppy.


G-OESL
euroskylink




SP-MXH



Panel & VC:

The Avanti has a fairly simple panel that is dominated by a small Collins MFD and a pair of rows of engine gauges that use digital readouts, but FSD is known for faithful reproductions of almost every system on their aircraft (with the exception of the lavatories) so this panel is far more complex than it looks. The background for the panel looks fine and captures the dull gray and back of the real P-180's front office very well. All of the main panel gauges work perfectly and are fairly easy to figure out, but again, the manual is important to get the most from your Avanti. Of note on the panel is the faithful reproduction of the Avanti's autopilot. Although the functions of the autopilot will be familiar to most simmers, the way the AP works is unique. Instead of little windows to input commands (like on the Lear 45), most functions of the Avanti autopilot are controlled from the gauges that the autopilot features pertain to. For example, the vertical speed is set with a moving bug on the VSI, and the airspeed uses a bug on the ASI. Even turning on the autopilot is a little odd since the various values can be set and the autopilot can be "on" but nothing will happen unless the switch to actually engage the autopilot is turned on.



Six subpanels are included and they house circuit breakers, throttles, a flight computer, and pressurization controls among other things. The subpanels look fine and all of the buttons and switches work realistically. The sub panels integrate smoothly into flying the aircraft and never feel like useless collections of nonfunctioning buttons. The most impressive feature on the panel is without a doubt the flight computer. The flight computer window takes the default GPS readout and combines it with a new interface that allows it to be far more powerful than if it were on its own. The FC allows you to use flight plans from FS9 as well as make your own waypoints via a number pad. In addition to flight plans, the FC also gives data about fuel use, weight, speed, and ETA and also provides a mode that makes the autopilot follow an FS flight plan without using the NAV mode coupled to the GPS. Although there is a lot of data being processed with the panel, framerates were not noticeably affected.



Although the Avanti has a good 2d panel, a good VC is mandatory on today's payware, and FSD once again delivers the goods. Like I said earlier, the P-180 has a very simple panel, so the VC, although somewhat spartan, is very well done. The instruments are all perfectly legible and everything that can be toggled in the 2d panel can be manipulated from the VC as well. The instruments and controls show a great level of detail, and exactly match the photos of the P-180 cockpits that I have seen. Although there is a lot of detail here, the gauges all move smooth enough to make low visibility IFR landings possible from the VC. My only issue with the VC is that some of the textures(mainly the autopilot) look a bit rough on the edges.



As one of the Avanit's selling points is its spacious cabin, it is only appropriate that FSD included a virtual cabin. The cabin shows the same attention to detail as the VC and looks simply stunning. The seats look real enough to sit in, the carpet looks like it was just cleaned, and even the teddy bear looks fuzzy. Although in most cases, virtual cabins kill framerates, the FSD Avanti VC is pretty easy on the hardware, and framerates were steady in all but the densest scenery.







Test System

2.2GHZ P4

Nvidia FX5900

Sidewinder 2& Ch ProPedals

110GB HDD

521 MB RAM.

Flight Test Time:

25 hours

Flight Model:

FSD is famous for flight models that are both buttery smooth to hand fly and also give performance very close to real world figures. For the P-180, FSD once again outdid themselves. It is worth noting here that FS actually thinks of turboprops as a jet, which makes accurate turboprop flight models very difficult to produce. Taxiing the Avanti is interesting since FSD has captured the touchy steering of the Avanti very well, so careful inputs are needed to avoid lurching across the taxiway like a drunk, The Avanti also rolls a but in tight turns due to its suspension setup.





After the brisk takeoff, (made easier by a lack of torque from the counter-rotating props), the Avanti's performance really starts to appear. After takeoff, a 2500 FPM climb can be established and held all the way to about 30,000 feet. In this cruise climb, the Avanti will have a very respectable ground speed of about 260KTS. Since the autopilot is not approved for use in the climb, the Avanti must be hand flown until you get to cruise altitude. Although hand flying may sound like a chore, the P-180 is very stable and hand flying it is actually a pleasure. After leveling out at anywhere from about FL310 to the max cruise altitude of FL410 the autopilot should be turned on since the Avanti is very responsive to pitch trim at cruise speed. The Avanti's big selling point is its speed, and once at altitude, the P-180 really is a flying Ferrari. Once at cruise altitude, speeds range from about 370-390KTS groundspeed, but like a jet, cruise speeds are limited by mach number (.7 in this case). Because the Avanti lacks a mach hold (speed hold is just indicated airspeed), changes in temperatures will cause the Avanti to overspeed, so you need to watch the airspeed closely. Most flights on the Avanti are fairly short (600-900 NM) but if you want to slow down closer to 300 KTS, the range can be extended to over 1500 NM. Although hand flying at cruise speed is possible, the trim is just touchy enough to where the autopilot is a good idea.



Descending in the Avanti is interesting. As I said before, the Avanti lacks any kind of spoilers or other drag inducing devices, so descents need to be planned in advance since last minute “slam dunk” descents will overspeed the aircraft. Once the gear and flaps are down, the Avanti is very easy to hand fly on approach as it is very stable and quite forgiving. Landing the P-180 is interesting because you “land” with the power levers by holding the pitch constant, and bringing the power back as you cross the threshold. If done correctly, the P-180 will smoothly slide onto the runway with nary a bounce just as the throttles reach the idle stops. As the Avanti lacks anti-skid brakes, slowing down with reverse pitch and light braking will consume quite a bit of real estate. During the decent phase, the Avanti is also a pleasure to hand fly, and I have found myself doing touch-and-goes just to get some hand flying time with this excellent flight model.

Sounds & Support:

The Avanti has an odd mixture of sounds associated with it, and FSD captures them perfectly. Externally, the Avanti has a one of a kind sound. The 5 bladed props make a very unique “whizzing” sound that is instantly recognizable, and having heard an Avanti on several occasions, I can safely say that the FSD team hit the nail on the head. Inside, the Avanti is known for being very quiet both in the cabin and cockpit (it is actually possible to carry on a conversation in normal tones in flight, and the flight crew can be overheard by the passengers.) The inside sounds are also well done and supplement very nice engine sounds with all of the buzzers and horns that dominate modern cockpits.

With so much good quality out there, customer support is fast becoming as much a part of payware as the planes themselves and FSD has support in the same league of excellence as their products. Support is handled through a forum on the FSD website, and the people answering the questions are the same ones who built the products, so even very obscure issues can be resolved. Although the Avanti is an excellent product, it had some flaws at release, but a pair of service packs means that most bugs are only appearing on a few systems, and even those should be nixed in the upcoming third service pack.

Summary:

So when all is said and done, is the Avanti worth the money? I say that it is. Overall FSD did a superb job of taking on a strange aircraft and making it work beautifully in a sim as finicky as FS2004 (and look great to boot). The Avanti is a must have if you enjoy fast planes, unique planes, or planes that are just fun to fly.

What I Liked About the P180 Avanti

- Easy to install
- Excellent model and textures
- Huge variety of repaints available
- A scalable realism option means that everyone from rookies to seasoned simmers can fly the Avanti how they want to.
- Great VC
- Framerate friendly and well supported.

What I Didn't Like About the P180 Avanti

- Pdf’s in manual require too much scrolling
- A few jagged textures in VC

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P180 Avanti

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