

AVSIM Commercial FS9 / FSX Aircraft Review

Pitts S1-T Special



Product Information

Publishers: [Addictive Simulations](#)

Description: FSX and FS9 simulated versions of the most famous aerobatic aircraft of them all, the Pitts Special.

Download Size:
157 MB

Format:
Download / CD

Simulation Type:
FS9 and FSX (Reviewed)

Reviewed by: [Alan Bradbury](#) AVSIM Staff Reviewer - July 26, 2010

The little aeroplane that could...

At just fifteen and a half feet long, six and a bit feet tall and less than eighteen feet wide, the Pitts Special would comfortably fit on most people's front drive. To put that in perspective, that's less than half the wingspan of the Wright Brothers' 1903 Flyer, but in the case of both the Flyer and the Pitts, size clearly doesn't matter, because the

only word you can choose to describe the influence of aircraft such as these is, massive.

For the Pitts Special however, success didn't happen overnight, but like the Flyer, when the news finally got out, it sent a shockwave around the world. That would be the world of aerobatics in the case of the Pitts. And I suspect it's about to do the same in a virtual fashion in the flight sim world too, because now we have a rather special Special for FS too. But before we get to why I think that is so, in the grand tradition of Avsim reviews, first here's a bit about the real aeroplane...

A special kind of guy, some special girls, and a special design

You might be surprised to learn that designer Curtis Pitts began work on the Pitts Special in 1943, and that it first flew in 1944. The first flight was apparently illegal too: Pitts was in the process of getting the Special certified and had been visited three times by the CAA (what is now the FAA) but had not been given either a certificate of airworthiness, nor any explanation as to why that was so. In frustration, when the inspectors departed that third time, Curtis leapt into the prototype and took off for a quick flip around. Upon landing, he was told by his friend and assistant on the Pitts, Phil Quigley, that the CAA inspectors had actually seen him make the flight whilst they were concealed behind a hedgerow. Luckily for Curtis, they had apparently been impressed with the way his Special flew, because when they came back for a fourth visit, it was not to remonstrate with him for his illegal flight, but to hand him the long awaited airworthiness certificate!

Success in production and sales was not quite so rapid however. Pitts had estimated that around ten would be built in 1945, but in fact only one slightly larger and stronger prototype was completed that year, which Quigley flew at several airshows. However, in 1947 luck again crossed paths with Pitts, when the legendary and indeed glamorously beautiful aviatrix, Betty Skelton, bought that Pitts Special second prototype, which she then proceeded to win the Women's US Aerobatics Championship not once, but for three years running.

As everyone in competitive aerobatics knows, if you haven't got the plane to match your skills, then success will elude you. Skelton's victories could therefore have been no better advert for the diminutive Pitts biplane. The equally glamorous rival aerobatic pilot, Caro Bayley, thus decided that she too wanted a Pitts, and so she ended up with Pitts number three being built for her, this one equipped with a 125hp Lycoming flat four as opposed to the 55hp Lycoming in the first prototype and the 90hp Franklin in Skelton's Pitts.

After this, Curtis Pitts gave some hand-drawn plans to friends, who commenced the tradition of people building their own Pitts Specials from plans, one of these having a 170hp Lycoming. Thus another tradition commenced, that of progressively more powerful engines being bolted to the front of the little aeroplane. The Pitts does in fact lend itself well to home building, being constructed in the manner pioneered by Anthony Fokker, having a welded steel tubing fuselage with an aluminium cowling and bungee-sprung undercarriage, married to wooden rib and spar wings with plywood or aluminium sheet leading edges, a traditional fabric covering completing the look.

Pitts ponies...

The fact that Pitts Specials tended to get progressively more powerful as the type evolved was fairly instrumental in changing the way competition aerobatics themselves evolved; far more maneuvers that don't simply rely on kinetic energy have become staples of competition these days. With refined plans for sale to builders, and demand increasing owing to the clean pair of aerobatic heels the Pitts Special could show to most other competition aircraft, the 1950s saw the Pitts S1-C Special being built in increasing numbers, and up until the 1980s, the Pitts Special was pretty much the only sensible choice for an aerobatic pilot with a desire to win.

That C designation is short for Continental incidentally, since it was designed primarily with the 100hp Continental flat four in mind as the powerplant, although of course most home builders wanted a bit more oomph, and so it almost always ended up getting a Lycoming 180hp engine stuck on the front end. Current models have had engines as powerful as 400hp put in them, but the main factory production variant these days typically has either a 200, or 260hp Lycoming.

You've gotta roll with it...

The Pitts airframe has some features which in modern times are about the only thing that has altered; the original Pitts Specials had ailerons only on the lower wings and used a flat M-6 airfoil, these days however, the Pitts tends to sport symmetrical airfoils and almost always have four ailerons when specced-up for competition flying. There are actually many different wings and aileron types which can be found on Pitts Specials though, because several companies have produced variations for the Pitts, and the wings are largely interchangeable, making for a good deal

of variety, not to mention where opinions on these virtues are concerned among the Pitts pantheon. Nevertheless, in spite of evolutionary variety in these points, you would be hard pressed to separate the original Pitts Special from a more modern one at first glance, which is a testament to the sound principles behind a design that is now seventy years old, yet still in production.

As confusing as that can be, to get you up to speed on the main models, here goes: The **S1** is the original; the **S1-C** is the first kit produced in large numbers; the **S1-D** is a C model with four ailerons and a slightly longer fuselage; the **S1-E** is a homebuilt kit version of the S1-S but can sometimes have custom built wings not supplied by the factory, the **S1-S** is the factory-built certified version from the early 1970s with symmetrical airfoils; the **S1-SS** is similar to the S1-S, but it has redesigned ailerons which don't require spades (spades being the adjustable sticky-out bits on the ailerons which aerodynamically balance them); the **S1-T** (which is the model duplicated here in FS) is the updated factory version of the S1-S that has a 200hp engine and a constant speed propeller; the **Ultimate** is a variant with clipped straight-ended wings for better low level maneuverability and a faster roll rate; the **S1-11B** is a radical redesign aimed at seriously high level aerobatics to compete with modern monoplane types; finally there is the **S2**, of which there are several variants, almost all of them being two-seaters used for aerobatics training as well as competition flying. There is also a radial-engine **Model 12** Pitts, but that's a rather different aircraft.

The Pitts Special today

Somewhat confusingly, there are two companies which make the real Pitts Special today, these being **Aviat** and **Steen Aero Lab**. This is because the rights to the factory-built Pitts were acquired by Aviat, but the rights to produce plans and kit parts for home builders to make one themselves is owned by Steen Aero Lab. So both are indeed genuine Pitts Specials, but you are likely to see far more variety in the Steen variants than the Aviat ones, since there are many options a DIY pilot can choose for their self-built aircraft.

Either way, the typical Pitts Special is good for about 150 knots in the cruise, 200 or so knots VNE, is certified for around plus six and minus five G, and will set you back anywhere from about 20 grand for a used one upwards to \$187,000 for the ultra-new Pitts Model 12. This is actually incredibly cheap for an aerobatic competition aircraft when you bear in mind that a fully tricked-out modern monoplane aerobatic type such as a Sukhoi or Extra at the top level of world aerobatics can easily top 300 grand. Even a standard Extra EA200, is around \$226,000.

Fortunately for us, there is now a third company in the Pitts business. They only want 20 quid (approx \$31) for theirs, you don't have to build it yourself, or wait for delivery, and this one is even smaller than the real Pitts, fitting on your hard drive rather than your front drive. So strap yourself in, and let's have a look at it, shall we?



The Addictive Simulations Pitts S1-T Special, seen here in a fairly normal flight attitude for one of these things.

Addictive Simulations? Never heard of 'em...

Addictive Simulations (AS) is not one of the more well-known FS add-on makers, but they are certainly not new, nor indeed new to making FS add-on aircraft. The driving force of Addictive is David Chester, who worked for a long time with First Class Simulations (FCS), creating amongst other things, their AVRO Lancaster. Way back in 2003, David had built a VC-10 for FS2002 simply because he was frustrated at there being none available, which started out as merely a freeware panel but evolved into a full product, ending up as payware, which FCS later published.

Other add-ons followed including a Trident - you can still buy all these by the way, and they work in FSX and FS9, so if you thought there was no VC-10 or Trident available with a virtual cockpit for your two favourite aircraft, then you'd be wrong - until eventually a small commune of people involved in creating stuff for FCS, which at various times has included Daniel Dunn, Gary Ward, Mike Hambly and Jane Rachel Whittaker, decided to formally get Addictive Simulations more into the limelight, with the shiny new Pitts Special.

All of this company history would be merely of passing interest were it not for a couple of points worth mentioning, which might otherwise appear confusing. Should you buy the AS Pitts, you may see the name Abacus crop up in relation to it (notably in the download URL), but this should not be confused with the flight sim add-on company, Abacus Publishing, which is a completely different entity. The name Abacus in relation to the Pitts is because developer David Chester runs a company coincidentally called Abacus Systems Ltd, which deals in computer hardware and is nothing at all to do with flight simulation add-ons.

The other thing of note, is that Addictive Simulations has not completely cut ties with FCS and so you may see more

from the nucleus of the AS team under the FCS banner. Among the forthcoming products from Addictive Simulations however, are a De Havilland Comet and a Supermarine Spiteful, which sounds like an exciting prospect to me, so if you've never heard of Addictive Simulations, then you can be sure that you will be hearing a lot about them in future. Anyway, now that's cleared up, back to the Pitts...

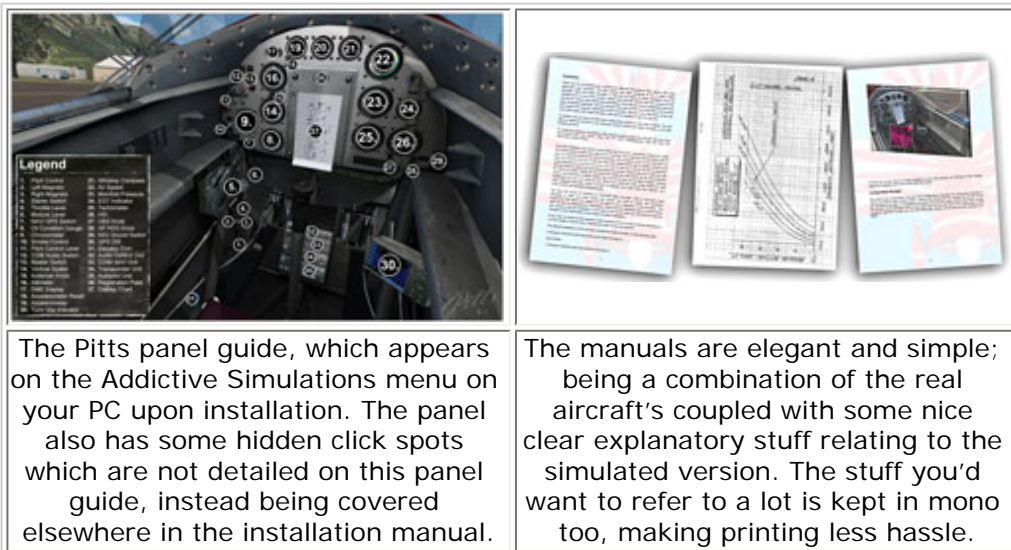
The product, installation and documentation

The Addictive Simulations Pitts Special costs 19.95 Pounds Sterling, which is approximately 30 Bucks in the Land of the Free, or 24 Europounds if you are one of those continental types. That's the price for the download, although you can also order it on CD for 21.95 Sterling, or 37.55 Dollars, or 27.95 Euros, which means a download is probably the best bet so long as you back the thing up, but for those with lesser internet connection, the CD route is a convenient alternative. The exe file or the CD will install the Pitts into either FSX or FS9, or both if you like, depending on your choice.

Despite this simplicity, the FSX and FS9 versions are not merely a simple port-over job; each one being a dedicated development for the respective sims, which is apparent in how well they look and perform. Interestingly, the EULA allows multiple installations too, should you wish to use Wide FS or some such.

As a download, it weighs in at 157Mb, which is pretty big for a simple biplane with few fancy avionics, so right away you can tell that something unusual is in store. Installation is a case of clicking on the exe file for the download (which this review is based on), then simply selecting your sim of choice. It will happily find your FS folders even if they are not in the default locations, which mine are not, so no worries there then. You can override this automation too if you like.

Upon installation, you will find an Addictive Simulations entry on your PC available from the normal 'Start' menu, which has a number of useful things. First up, the PDF manuals, of which there are two. There is a nine-page Performance and Checklists Manual, which gives you approximate best entry speeds for most aerobatic maneuvers, as well as some performance graphs from the real Pitts S1-T manual, rounding off with engine start and shut down procedures that are exactly like the real aircraft in every way.



The Pitts panel guide, which appears on the Addictive Simulations menu on your PC upon installation. The panel also has some hidden click spots which are not detailed on this panel guide, instead being covered elsewhere in the installation manual.

The manuals are elegant and simple; being a combination of the real aircraft's coupled with some nice clear explanatory stuff relating to the simulated version. The stuff you'd want to refer to a lot is kept in mono too, making printing less hassle.

The second PDF is the Installation Manual, which is actually slightly more than a mere installation manual, since it also explains where various click spots and utilities can be found and what these do, which is worth a look since the AS Pitts has quite a few visual tricks up its sleeve, more of which later. This manual also runs to just nine pages, which is entirely enough to get things done. So the manuals are not a lengthy read, but they do the job well in spite of their brevity.

In addition to the manuals, you will also find a couple of text files on that AS menu listing, one being the EULA, the other a read me file which has some additional info on things such as overriding the automatic installation exe so that you can make multiple installations if you have a networked set up or something of a less than typical nature. You'll also find a jpeg image residing on the menu, which is a screenshot of the Pitts with labels pointing out the various parts of the cockpit.

Last and most definitely least, there is an uninstall option. Frankly, if you ever use that, then I recommend a visit to a psychiatrist because anyone who wants to uninstall this thing after they've had a go with it is quite clearly not running

on all cylinders.

Pitts crew service...

It's worth noting here that there are plans from AS to include further stuff for the Pitts. Most interestingly, a 'pilot pack' is on the way, which will include extended tutorial documents relating to how to fly aerobatics properly. This sounds like an extremely welcome addition indeed, since there is a lot to flying aerobatics, much of which is not easy to find out about if you have never had any formal aerobatics flight training.




At the time of writing, I was informed that a paint kit was due to be made available too, so it is almost certainly available now as you read this review. Thus if you want a Rothmans Aerobatic Team Pitts Special (and I know I do), then I'm sure it will be forthcoming. As another interesting matter relating to repaints, Addictive have a rather nice proposition for owners of a real Pitts who buy the AS one - they will create a free repaint of any such aircraft for the owner.

So, it's simple to install, has decent documentation and there's the prospect of some interesting future embellishments too.

Exterior model

Once installed, when you fire up FS you will find several Pitts Specials available to you. These are all S1-T variants, specifically Aviat models, so you can fly in a variety of different paint jobs, mostly these represent either US or UK real aircraft but there will doubtless be more of these floating around the 'net before long since the Pitts is a wonderful subject for repainters to get their hands on given the vast array of colourful Pitts there are in existence. Worthy of note here by the way, is that there are some subtle differences between the different S1-Ts which appear in your FS menu, thus they are actually more than mere livery changes. Differences include fuselage DV panels and aileron spade variations amongst other things.

I'm largely concentrating on the FSX version for this review as there is little to choose between FS9 and FSX where flight modeling is concerned, but since the graphic rendering capabilities of FS9 and FSX differ, I will indulge in a few screen grabs from both versions because they are indeed sim-specific in this regard. It looks great in both sims by the way, although of the two, it's clearly going to look a bit more impressive in FSX with the increased visual fidelity the later sim offers.

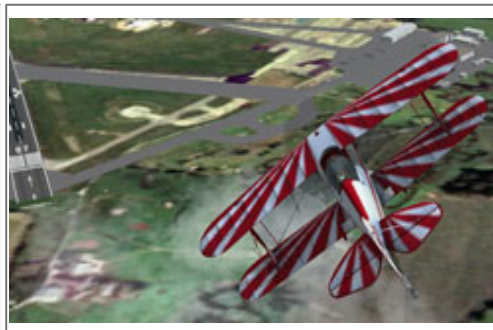
 <p>Aviat S-1 Special G-BKPZ, Red, White...</p> <p>Aviat S-1 Special G-BRBN, White & Red</p> <p>Aviat S-1 Special N666BM, Red & White</p> <p>Aviat S-1 Special ZK-PIT, 'Silver Dem...</p> <p>Aviat S-1 Special G-BTTR, Yellow & Blue</p> <p>Aviat S-1 Special Unmarked</p>		
<p>There is a nice selection of paint jobs included with the Addictive Simulations Pitts S1-T, the same ones being available in either FSX or FS9. A paint kit is apparently on the way too, so we can expect plenty of variety in online file libraries. The Red White and Blue G-BKPZ up there on the top left is the actual aircraft the simulated Pitts was modeled after.</p>	<p>Bare metal FSX version, for those who prefer the minimalist look.</p>	<p>FSX grey version with some sponsorship decals.</p>



FSX Red and white UK registered aircraft

Red and white variant in FSX, featuring a US registration. Also visible in this picture is the animations configuration panel, which controls the parking stuff such as chocks as well as pilot choices. Just visible in the cockpit is a model of the owner of the Pitts which was used as the basis for the FS version.

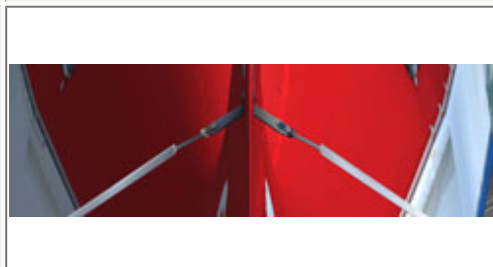
FSX UK yellow and blue variant with all the parking animations on, the canopy slid open and the pilot removed. Notice this variant has aileron spades on the bottom elevators, other variants in the package feature different aerodynamic accessories. Notice too that the string airspeed guide on the wing appears to be moving in the wind.



The Red White and Blue UK registered Pitts upon which the Addictive Simulations Pitts was actually based, again in FSX. Here we can see some more of the parking animations, and you will also notice that this version has aileron spades on the upper wings and clear DV panels down near where the pilot's feet would be, to assist with alignment over geographical features such as the flight line when doing an aerobatic routine. Other versions in the package feature different detailing, making for some subtle and interesting variety.

FS9 version with a close up of the DV panel in the side.

FS9 version lining up for a routine



Reflective textures in FS9

Detail in spades: FS9 aileron spade in close up, including the stainless steel fasteners, not that they've gone over the top with attention to detail or anything!!

More impressive and accurate detailing in FS9, this time on the tailfin. All of this detail doesn't seem to slow it down at all though, either in FS9 or FSX. Personally I suspect that this has been made possible by a pact with the devil, since there is no other reasonable explanation for such high FPS.

As you can see from the screen shots, whether in FSX or FS9, it looks fantastic, and to be honest, apart from the fact that the FSX one can have self shadowing and lighting with a nice bump-mapped texture on the cockpit coaming, you can see that there's little to split them in looks for either sim. In fact, the only reason I really prefer the FSX version is because FSX replays remember and display the control surface deflections when you watch them, which is useful for examining where you went wrong if a maneuver didn't come off properly. And trust me; you will end up watching replays for that reason, as you strive to perfect all the FAI Aresti Aerobatic Catalogue maneuvers.

To give FSX its due though, the various glints and sparkles which show up on the bracing wires and other metal parts of the FSX Pitts, as you whirl around the skies, definitely does add to the experience. Then again, the fact that I could get over 100 FPS with it in FS9 when all the detail sliders were maxed out didn't exactly hurt either, so each version has merit.

Apart from the appearance of the model itself, there are a number of rather clever animations and extra bits and pieces to be seen. You can park the thing and have remove before flight tags, pitot covers, chocks, tie-downs and even an oil drip tray under the thing so you don't upset people by dripping oil all over the airfield's lovely grass. There is the choice to display a male or female pilot figure or no cockpit figure at all, and these pilots feature some really clever animations including turning to observe the direction of a maneuver and even removing their sunglasses when the weather is not bright. This animated trickery isn't merely all eye candy either, out on the port wing the streamer to assist with judging airflow on the real thing can indeed do so to some extent on this FS version since it is animated based on airspeed. It hangs straight down when the aircraft is parked.

Even if you are not normally one for exterior views, it has to be said that an aerobatic flight sim aircraft is almost certainly something where the tower view and the replay camera are going to end up getting used. The fact that the exterior model is pretty, yet manages to zip along at an impressive frame rate in either sim, even with the custom smoke effect on, is definitely a credit to the Addictive Simulation developers. Pretty is one thing, but pretty and slick is a real achievement. Bravo.

Interior model

Inside the snug cockpit of the Pitts, the visual treats continue. The FSX and FS9 versions have both virtual cockpits as well as 2D panels. My preference is for VCs in all flight sim stuff, but my preferences aside whether you prefer 2D or VC, one thing you will need in order to get the best out of the Addictive Pitts, is either Track-IR or some well-placed left, right and rear view buttons on your joystick, because in any aerobatic aircraft it is vital to constantly look either side when doing vertical maneuvers in order to check if you are correctly placed and not inadvertently pitching or rolling off your correct axis. In short, you are probably going to be looking at the wings as much as you are looking straight ahead when flying this thing.



Zoomed out in the VC view of FSX. There is some lovely texturing going on here, making things such as the knurled throttle handle look very convincing indeed.

Zooming in on the VC in FSX reveals some impressive bump-mapping on the coaming and more or less no polygons visible in making the circular parts of dials. You can even see where the pilot has folded up the Aresti routine diagram prior to sliding under the Perspex holder. If you like detailed VCs, then that's certainly what you get here.



FS9 2D panel.

FS9 VC, which is not as fancy as the FSX one, but still very nice indeed. With Track-IR and all the sliders maxed, you can still easily get 100FPS.

The feeling of enclosure in a Pitts is one of its trademarks, it being more like an aircraft that you put on as opposed to climb into, especially since the sides of the cockpit come right up to your shoulders. Those slab sides are in fact what makes the Pitts so good at knife-edging by the way, since they create a fair bit of lift when banked over. I do have one small criticism here however, and that is the default eye position is a tad too high up in my opinion, which does tend to make your view bleed through the canopy when you turn the view left or right (if the canopy is closed that is, since you can fly with it open if you like). This is where the wonderful EZDOK camera's VC limit capabilities could come in useful, although in practice it is easy enough to shunt the view down a bit or simply sit a bit lower if using Track-IR, but if it was up to me I'd stick the default eye point just a tiny bit lower and live with being able to see a little less of the cowling.

The Addictive Pitts cockpit is reasonably well tricked out for an aerobatic aircraft in terms of avionics and such, with a GPS and fairly comprehensive radio stack, and this is indeed common for aerobatic aircraft which fly to competitions, but since you don't have to do that you will doubtless be more interested in instruments other than all that navigation gear, in particular the accelerometer, VSI, altimeter, ASI, chronometer and smoke system which are what really matters on an aerobatic aircraft.

But regardless of which instruments you are looking at, it has to be said that they are beautifully rendered, and in the case of the FSX version, the bump-mapped textures in the VC are really spectacularly convincing. You don't get such bump-mapped fanciness in the FS9 version, but really, you are going to be far too busy with other things to look at once you are flying. So it's debatable whether their lack is such a big deal on the FS9 variant.

The VC has some visual tricks up its sleeve too, with a number of clickable hot spots to do things such as hide the control column, pop up the radio panel, or invoke several different groups of enlarged instrument sets, and there are a number of pre-zoomed instrument panel views there too all available via the mouse, key toggles, or the FS menus.

One of these options is especially important when it comes to flying accurate aerobatics in the Pitts by the way (about which more shortly), so it's apparent that the developers knew what they were doing when it came to knowing what's important in an aerobatic aircraft and I'm extremely glad



Enlarged 2D left panel pop up in FS9, including the chronometer. This is a godsend for timing aeros properly.

they got this in particular aspect exactly right.

Up in the air...

Once you've fired up that simulated Lycoming, which incidentally can be done exactly as per the real thing if you so desire, you are greeted with a very convincing and typically Pitts buzzing engine sound. Of more immediate concern however, is the prospect of getting the thing into the air. Fortunately, like the real Pitts, the Addictive version is authentic enough to emulate it on the ground roll, so it does need a touch of rudder initially, but once it is rolling along and building airspeed it tracks fairly straight of its own accord, as does the real Pitts. Although, if you have not started on the runway you will find that care is needed not to up-end the thing in an over-ambitious turn when taxiing it.

In common with every other tail dragger, the view forward is not its best feature when sat on its tailfeathers, thus adopting the typical techniques of weaving about and keeping your head well back; using the view to the sides in order to judge where you are is the order of the day. Sadly, this is one area where desktop PCs are not at their best since we have no peripheral vision feedback, so it is just as well that the virtual Pitts keeps pretty straight on the take off roll once you tell it to do so.

Like the real Pitts, this one will fly itself off the deck from the tail up position of a take off roll, and there is barely any forward stick required to get it on the perch. Also like the real Pitts, it goes up like a rocket compared to most single engine prop aircraft on account of the fact that it weighs about as much as an empty paper cup. Once up to a decent height, a tentative move of the stick confirms that it has the twitchy, fairly rapid roll rate of the real thing, yet it still manages to sit nice and level if you want it to. In spite of the fact that the roll rate is high (probably as much as 270 degrees per second at high speeds), it feels well balanced and is easy to keep coordinated in a leisurely turn. But leisurely turns are not really what the Pitts were built for, so let's get up to 5,000 feet for some fun and games...

Get ready for a shock...

Now, if you think you are a pretty decent pilot, and even if you actually are a pretty decent pilot, then you might be in for a shock with this thing because the extremely convincing flight model extends to the regime where you will be throwing it about in aerobatic maneuvers. It's one thing to dash off a quick sloppy roll, even a Cessna can do that, but competitive aerobatics are all about precision and that's where it gets tricky.

After all, if precise aerobatics were easy, anyone with a few hours in a Cessna 152 could be an aerobatic world champion. So the first thing you are going to notice on the Addictive Pitts is that with such an authentic flight model, pulling off a neat roll where you come out of it wings-level is something that is going to take practice. As basic an aerobatic move as the roll is, it requires good timing and precise control of not just the stick but also the rudder in order to tame that speedy roll rate.

This means that one thing you probably will need so as to make that as easy as it can be, is a decent rudder control. That could be a twist joystick of course, but you will definitely find it easier with a set of rudder pedals. In fact, if you have been getting by without rudder pedals then this thing will probably make you want to go and get some, as you strive to get those moves inch-perfect.

In practice, speedy roll rates on aerobatic aircraft are not quite as important as the speedy ability to check the roll rate and come out of a roll precisely. This is where the Pitts is actually a better choice than some of the hyper-twitchy, ultra modern aerobats with their 400 degrees per second roll rates. So if you have ever struggled with the default FS Extra, then despite the much greater fidelity of the AS Pitts, you will ultimately find it easier to precisely master maneuvers than is the case with that default aerobatic bird.

Flying aerobatic maneuvers of any kind in the Addictive Pitts is where it is hugely apparent that the developers have managed to create something incredibly special with this particular simulation of an aeroplane. Make no mistake, this is an easy aircraft to fly but is not an easy aircraft to master, simply because it is so much like the real thing, and like the real thing if you want to do the precise aerobatics the Pitts was made for, then that will mean imposing tough standards on the neatness of your control inputs. So some study and practice is going to be required.

Nevertheless, the Addictive Pitts is exactly that - addictive - being such great fun to throw about, that you really won't mind. Moreover, the feeling of



Are we having fun yet? Throwing this thing around the sky is guaranteed to stick a smile on your face.

satisfaction you gain after getting a maneuver down well is something which will have you grinning like an idiot. If ever there was an FS aircraft that rewards the attention you are prepared to give it, then this must surely be it. I'm absolutely not joking when I say this is the best bit of flight modeling I've ever come across for FS. It really is that good.

But (there's always a but isn't there?) there is no getting away from the fact that it will take some effort on your part to get this thing flying beautifully precise aerobatics. Of course you could knock the realism settings of FS down a notch or two if you like and make things a bit easier, but you surely don't want to do that, do you?

Bring it on home

At some point you'll probably want to land it. Actually, that's a lie, you will just want to fly it around forever and never land it at all but should you, for whatever unfathomable reason, want to land the Addictive Pitts rather than streak around the skies with a grin permanently etched on your face, then as with all taildraggers it can be an alarming prospect.

Visibility forward and downwards from the Pitts cockpit, or rather the complete lack of it, makes a curved approach or sideslip a necessity, so you'll be pleased to know that the AS Pitts can actually do a convincing sideslip. As the runway comes up to meet you, again it's a case of head back and use the peripheral view of the runway edges on either side to ensure you are central whilst feeling your way down. With the power off you can make a pretty steep approach, keeping the speed on and being an aerobatic aeroplane, elevator response is good, making such approaches a non event with minimal practice. So although like every other taildragger, it needs more effort to land well, but is by no means especially tricky. All of this, you won't be surprised to learn, is pretty much the case with the real Pitts too.

It's a testament to the accuracy of the flight model that a number of real-world Pitts pilots have been raving about how accurate and realistic the AS version is, including one guy who is a Dutch Squadron Leader on F-16s who also flies a Pitts at air shows on the weekends. He had this to say about it when he got in touch with Addictive Simulations: *'Today I flew 2 hours with your Pitts Special, both FS2004, and FSX version. It's an amazing, beautiful, funny, and realistic aircraft to fly, its flight model is almost like the real plane :-).'*

Sound and vision...

The last thing to examine for this review is the audio. Anyone who has ever been to an air show will almost certainly have seen a Pitts Special whizzing overhead, and they will also be familiar with the 'demented bee' sound that the Lycoming makes when bolted to a Pitts airframe then shoved up to high RPM with that twin blade prop. It's certainly not the beautiful molasses-smooth sound of a Merlin, but as buzzy as it is, it's there in all its lesser glory on the Addictive Pitts Special. Whether you choose to drop the sound and simulate wearing a noise-canceling headset or enjoy the sound of the screws vibrating themselves loose from the panel, is up to you of course.

Throttling the engine back to the kind of RPM more likely on a descent or approach reveals that the less manic power setting audio is equally faithful too. Accompanying that engine sound is a good emulation of the aerodynamic whoosh that all those struts and wires cause in spite of the streamlining, and that works well in relation to the airspeed during aerobatic contortions. So, a simple yet effective sound set and also quite useful from an aerodynamic standpoint. No complaints there then. See below for a link to hear that in action by the way.

All of the above is of course my opinion, so for a slightly less subjective way to determine how the Addictive Pitts performs in FS, other than simply taking my word for it, I've knocked up a quick [video](#) demonstrating its ability to fly a few aerobatic maneuvers which you can check out. As you will see, I'm not exactly about to take the world of cutting edge aerobatic competition flying by storm, but the footage nevertheless will confirm that you can fly the Aresti Catalogue (yes I know a lomcovak isn't in there), and that the Pitts looks and sounds very realistic, running smoothly in both FS9 and FSX.

Conclusion

You will know by now that I've been mightily impressed by the Addictive Simulations Pitts on pretty much all fronts, the cherry on the top of this is the fact that it is only twenty quid for such airborne

splendor. But value and my own opinions aside, which are obviously going to be somewhat subjective, I thought I would conclude this review in a way which might conceivably convey what the AS Pitts S1-T Special can do to you. So here goes...

When practicing hammerhead turns in FS9 with Addictive's Pitts, I got over-zealous with my Saitek rudder pedals, pushing the left one so forcefully; that it actually jammed in the hard left position (later took them apart and fixed that incidentally). Now, ordinarily if something like that happened, I'd be reaching down for them and wondering what was what, but that's not what happened, something else did, which was rather extraordinary.

As some of you may know, in real life I am more of a glider pilot than a power pilot, and that means I have something in common with many aerobatics pilots, that being I usually wear a parachute. Why is this relevant? Well, when my rudder pedals jammed I immediately did a quick assessment of the possibility of recovery in the height available, decided it was a no go, then automatically let go of the stick, put both palms forward so that I could bang the canopy jettison levers whilst simultaneously looking down to identify the harness release (a precaution which avoids accidentally hitting the parachute release clasp by mistake). It was at this point that I remembered I was not actually flying a real aircraft!

If a simulated aeroplane can put me so far 'in the zone' as to have me automatically start doing emergency drills when some peripheral on my computer fails, then it really has got to have something magic about it because I've never done that before! So here's my recommendation: Go to the Pitts product website and buy it before they come to their senses and realize they should be charging far more for the thing.

Is it worth it? You bet your ass it is. This one is thoroughly recommended.

Additional helpful info:

Some tricks for getting the best out of the Pitts in FS...

If you choose to acquire this particular FS aeroplane (and I think you should), then it is one you'll probably have to fly quite a bit to get it doing exactly what you want, so it is worth mentioning a few tricks you can use in order to make that task a bit easier. Number one on that list of aero tricks is to notice that there is a prominent chronometer on the left of the panel. Most people would of course use an aircraft chronometer to time flying legs on a holding pattern, or for dead-reckoning a navigation leg, but in an aerobatic aeroplane such as this that fancy clock has another use - for timing control inputs.

To explain, let's say you want to pull off a perfectly executed 360 degree roll. Now some truly gifted pilots can do that all by feel, but for us mere mortals, a more common technique would be to time the control inputs with a count. So you might shove the stick over hard and start a brisk count as you do so, and when you get to perhaps three, you might then reverse the stick, count one and then centre it whilst adding a dab of rudder.

This is all very well, but you of course need to be consistent with such a counting technique if you are to perfect it, and that's where the second timer on the chronometer comes in, because with that and the ASI, you can be sure your count speed will always be what is required for the speed you are going at.

Some aerobatic pilots go a step further with this by having an audio metronomic 'click track' playing, or even a piece of music which they can time stuff with. Whatever your own preference, this is something you will probably need to do with the Pitts in FS, since you will lack the seat of the pants feedback that a real aircraft can assist you with for such control. So when you see that chronometer, just make sure that you also notice the option on the FS menus that allows you to expand the left panel instruments and put that fancy stopwatch right where you can use it to best advantage!

Another trick to flying an aerobatic aircraft is to judge things off the control deflections, and this is a favourite technique among aero pilots too. How that one works is to use small inputs on the ailerons to judge the speed and correct time to do stuff. By way of example, here's how it can be done to time a hammerhead turn: Having pulled up into a climb, you need to know exactly the right time to kick on the rudder pedal to initiate the hammerhead turn and that is tricky when you are looking out at the wings and cannot see the ASI. But since you are vertical and slowing,

Test System

A desktop PC with an ASRock M3A770DE motherboard, running 4Mb of Corsair DDR 3 RAM, an ATI Radeon 4800 PCI-x graphics card with 2009.1124.2131.38610 Catalyst drivers.

Operating system: Windows XP Home with Service Pack 3 and DirectX 9.0c.

Peripheral devices: Saitek Cyborg EVO joystick, Saitek rudder pedals and Track-IR 4.

FSX was patched to SP2, FS9 to 9.1.

Flying Time:

20 hours, or it may have been 20 days, I lost track of time when flying it.

your ailerons will be losing their effectiveness and you can use that phenomenon to judge your speed if you look at them out on the wings.

So you might find that when they are up about an inch on one side, that amount of deflection is no longer enough to make you roll, which might be an indication of the speed where the rudder should be kicked and the stick shoved. You will have to experiment to find the visual indicator that suits you personally, but when you do, you will find that this technique kills two birds with one stone since you can also use it to ensure the aircraft is in the correct position by referring to the horizon too, as you are already looking out at the wing instead of at the ASI. Some pilots actually paint markings on their ailerons for this kind of thing, and if you are a repainter of FS aircraft, you could do that too.

The fact that the Addictive Pitts is accurate enough to actually make this kind of thing possible in FS is just one of the things which make it so impressive.

Hardware considerations

Since the Addictive Simulations Pitts Special is very much a 'stick and rudder' aeroplane, it goes without saying that having a decent stick and rudder will be a big help in taming it. You can see the hardware I used for this review in the Test System information panel and you will notice that my PC is no monster device, but it was more than enough to get good frame rates in both FSX and FS with the details up high.

Track-IR, or any other head tracking device which controls your view was a real plus for the Pitts in FS too, and if you want to get the best out of it then this is seriously recommended. I've not got any kind of feedback systems on my FS desktop set up, but I suspect the ButtKicker seat vibration peripheral would be a big help too for this aircraft, or failing that, possibly a stick which can emulate elevator pre-stall buffet convincingly.

Handy links which may also improve the experience

An aerobatic competition aeroplane will be more fun with some competition, so I recommend taking a look at [Just Flight's Airshow Pilot](#) add-on when you have mastered the Pitts. That way you can pit your Pitts against the Pitts wits of others, to coin a phrase.

Real aerobatic routines are overseen by the Federation Aeronautic Internationale (FAI) and use the [Aresti Catalogue](#) of aerobatic maneuvers to regulate competitions. You can learn the basic Aresti catalogue shorthand language in a tutorial.

The [FAI](#) sells a number of aerobatics related things, some of which will be useful as accessories for the AS Pitts if you want to use it seriously. You can find all that kind of thing here

The [FAI website](#) is another good source of info for aerobatics (and other sport flying too).

The [Steen Aero Lab](#) website, makers of DIY Pitts Special kits.

The Aviat website, makers of the factory-built Pitts.

Last but not least, here is the [Addictive Simulations Pitts S1-T website](#). You'll definitely want to take a look there from time to time, as they update things.

What I Like About The Pitts S1-T Special

- In a word, everything.
- Looks great.
- Flies great.
- Sounds great.
- Works great (in both FSX and FS9).
- Bargain price.
- Good support.
- In short, I don't like this thing, I love it.

What I Don't Like About The Pitts S1-T Special

- In a word, nothing.
- This thing tried to kill my Saitek rudder pedals. Well, to be honest it was me really, getting too heavy on them and stomping really hard when doing a hammerhead.

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"

[Pitts S-1T Special](#)

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

Comments?

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