The Pitts Specials were a series of aerobatic aircraft designed by Curtis Pitts in the 1940s. The planes were designed to compete in international aerobatic competitions and proved themselves to be quite competent by winning a number of championships. One notable pilot, Betty Skelton, who made her professional aerobatic debut right here in Jacksonville, Florida, won the Female Aerobatic Championships in 1949 and 1950 flying a Pitts. Her single-place, open cockpit Pitts, nicknamed “Little Stinker,” is now hanging in the Smithsonian.

The subject of our review is a modern Pitts S2 with a fully-enclosed bubble canopy. Now produced by Aviat Aircraft in Afton, Wyoming, the two-place Pitts S2 is intended primarily for aerobatic training. Powered by a 260HP Lycoming engine swinging a composite prop, the S2 is designed to be fully aerobatic capable, yet easy enough to fly so that new aerobatic pilots are comfortable when learning advanced maneuvers. With a wingspan of only 20 feet, there are RC models that are nearly as large.

The PNP, or Plug and Play, Pitts only requires a four-channel transmitter and receiver and a 6S LiPo battery and charger. The servos, motor and ESC are included and pre-installed. The cockpit makes up a magnetically retained battery hatch and provides very easy access to change packs. The cockpit detail is nicely rounded out with a pilot figure and instrument panels.

I was eyeballing the FMS Pitts with great interest at the swap meet in Perry, Georgia, so I was pleased to learn I was getting one for review. I’ve always liked the look of the Pitts, but the models that I have flown have always been a bit of a handful to fly so I was curious to see how the FMS Pitts flew.

Author’s Opinion
The FMS Pitts S2 looks great and includes lots of scale details such as panel lines and even a pilot figure. The ESC, motor and three blade prop provide plenty of power and the Pitts will do most regular aerobatics as well as some 3D style flying. There are, however, a few minor issues such as an excessive spinner gap and I would really prefer the wings to be easily removable. Those points aside, the Pitts looks good, is quick and easy to assemble and a lot of fun to fly.

Pros
- Great looking biplane with a nice scale outline and lots of detail
- Stock power system has plenty of zip
- The Pitts is a blast to fly

Cons
- Wings aren’t easily removable
- Cowl to spinner gap is a little excessive

Everyone loves a sporty biplane!

NEED TO KNOW
- Manufacturer: FMS
- Distributor: Diamond Hobby
- Type: ARF Electric Sport/3D
- For: Advanced pilots
- Price: $319.99
- Minimum flying area: RC club or large park
- Needed to complete/included: Includes all servos, ESC and motor with prop. Requires a 4-channel radio and receiver, 6S battery and charger.

Key Features
- Takes only about two hours to fully assemble.
- Plug and Play means you only need to add your transmitter, receiver and battery.
- Constructed of EPO “Flex Foam” with many scale details molded in such as panel lines, rivets and simulated fabric covered wings.
- Includes detailed cockpit and pilot figure.
- Well-matched power system for barnstorming airshow performance.

Photos by Andrew Griffith

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IN THE AIR

I will admit to some nerves for the test flight as I have flown several Pitts and Christen Eagles (a very similar design) over the years and they tend to be quite a handful. I was pleased to see the Pitts taxied very well on our paved runways so I lined up on center line, gave some back elevator pressure to keep the tail wheel in control of things and smoothly advanced the throttle. The large three-blade prop produces great thrust, but a lot of torque, so rudder is needed to keep things moving in the right direction. 

As the speed came up I relaxed the elevator pressure and the Pitts headed skyward in about 50 feet at approximately 3/4 throttle. I hadn't even reached full throttle when the Pitts broke ground. Up trim seemed excessive so I pulled into a 45 up-line, rolled over and the nose immediately sank towards the ground. The recommended CG was definitely nose heavy. With two ounces of lead removed from the nose, I taxied out and tried again. The takeoff was even better as the trim was nearly back to neutral and the nose still dropped on the up-line, but barely. With an airframe such as the Pitts I'm looking for a slightly nose heavy CG, so this was right where I wanted it. 

With the jitters of a maiden out of the way and the CG where I was comfortable with it, it was time to put the Pitts through some aerobatics. The first impression I had was that the Pitts had plenty of power. Modelers are rarely content to leave well enough alone, but in the case of the Pitts, the matching of the three-blade propeller with the 85 Amp ESC and the use of a good battery, there really is nothing that needs to be done to the power system.

Basic aerobatics looked good and felt good with the Pitts. It flew knife edge very well with very little coupling. The ailerons had plenty of authority as the roll rate in high rate was good and stops were crisp. The elevator was another story. Anything that demanded a lot of elevator or elevator at high speed felt mushy until the plane slowed down and the elevator caught up. I let several people of varying skill levels fly the Pitts during our 3D Bowl event and everyone really liked it, but said it needed more elevator. This was most noticeable in spins and tumbles. Slow speed snaps both upright and inverted were fine. 

Landing the Pitts was easy, but you need to keep a little power on during approaches as the frontal area of both wings and the struts create a lot of drag. The Pitts will fly quite slowly, indeed, slower than I thought it would before it stalled. Still, the drag needs to be overcome with power and if you back off the power significantly the Pitts will lose altitude quickly. At about 1/3 throttle, the Pitts will fly right to the runway and settle on the main wheels nicely. If you come in too slow or try a three point landing, the wire landing gear might actually cause the plane to bounce once, if not more.

Once I went back and investigated the elevator issue (see build section) the Pitts went from nice to WOW. Snaps were crisp, tumbles were nice, and spins were much improved.

The power system consists of an 85 Amp speed controller with a built in 5 Amp BEC (Battery Eliminator Circuit). The speed controller battery lead is pre-soldered with a Deans style connector. The Pitts calls for a 6S battery in the 3500mAh range. The battery compartment is generous and I flew it with as large as a 6S 5000mAh. The downside about the battery installation is that it’s right on the CG so there’s little room to move it forward for nose weight. The good news for me is that AGA Power batteries come stock with Deans connectors so I finally had an electric review project that didn’t require any soldering. Yay!

The kit includes a full printed manual that is well illustrated and leaves nothing to chance. While flying a Pitts isn’t for beginners, no matter what your experience level, you won’t have any trouble building this plane using the included manual. Much of the assembly work required simply installing control horns on the surfaces with the supplied contact cement that was used throughout the assembly process. One area that often needs some adjustment is aligning the horizontal control surfaces so they’re all perfectly parallel.
The FMS Pitts flies great and everyone that tried it seemed to enjoy it. The large interior has plenty of room for a variety of 6S batteries and accessing the battery compartment is extremely easy. It has the classic lines and scale appearance of the Pitts S2 that biplane fans love. While there is room for some minor improvements, it looks great in the air and is a good value for the money.

One area of note during the assembly is when it came time to install the wings. The wing halves are glued together and then bolted to the fuselage. The leading edge of the wing is secured by the same bolts that hold the rear landing gear struts in place. The result is that you end up with a 55-inch wing that is pretty much permanently attached to the fuselage. It fits fine in my Honda Pilot, but I would prefer the wings to be easily removable. With the battery on the CG and everything as far forward as we could get it, it was no surprise that the short nose on the Pitts needed some weight up front to get the CG to the recommended range. Though we started with six ounces, flight testing indicated it was actually a bit nose heavy and we ended up with four ounces.

After initial flight testing I wasn’t happy with the elevator response so I broke out a throw meter and inline amp meter to see if some improvements could be made. The problem turned out to be that the mounting spot for the elevator control arms was too far back on the control surface. Moving the control arms forward so that the push rod attached at the hinge line gave me symmetrical throw and solved the elevator issue I was having.

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**SPECS**

- **WINGSPAN:** 55.1 in.
- **WING AREA:** 1,040 sq. in.
- **FLYING WEIGHT:** 8 lb., 2 oz.
- **WING LOADING:** 18 oz./sq. ft.
- **CUBE LOADING:** 6.7
- **LENGTH:** 50 in.
- **RADIO:** Spektrum DX-18QQ
- **MOTOR:** 5060-KV360 380KV Brushless Outrunner (included)
- **PROPELLER/SPINNER:** 14x8 3-blade with spinner (included)
- **RPM:** 6,000
- **DURATION:** 5 minutes
- **BATTERY:** AGA Power 22.2V 6S 3500mAh 30C
- **POWER CONSUMPTION:** 72 Amps/1630 watts

**We Used**

- **TRANSMITTER**
  Spektrum DX18QQ, SPM18800
- **BATTERY**
  AGA Power 6S 3300, AGP6S330030C
- **RECEIVER**
  Spektrum AR6210, SPMAR6210

**THE LAST WORD**

The FMS Pitts flies great and everyone that tried it seemed to enjoy it. The large interior has plenty of room for a variety of 6S batteries and accessing the battery compartment is extremely easy. It has the classic lines and scale appearance of the Pitts S2 that biplane fans love. While there is room for some minor improvements, it looks great in the air and is a good value for the money.

**CONTACTS**

- **AGA POWER** aga-powerusa.com, (813) 922-1242
- **DIAMOND HOBBY** diamondhobby.com, (850) 765-1132
- **SPEKTRUM** SpektrumRC.com, (217) 352-1913

For more information, please see our source guide on page 105.