



Flight Report

P-51 Mustang PTS

Can't learn to fly with a WWII fighter? Hangar 9 proves you can — easily!

Hobby dealers have spent decades in an ongoing effort to make enthusiastic wannabe RC pilots understand that real pilots are not taught to fly in combat-ready aircraft. The logic is flawless, of course, and potential customers usually understand it. The problem is that the logic isn't giving them what they want; they still want to make that first model an F-14, a B-17 or most of all, a heavy-metal P-51 Mustang.

A few good models have been offered along the way. Two that come to mind are Dave Platt's Contender (Top Flite Models) from the mid-1970's and my own F-14 *Tamecat Trainer* (AMA Plans Service, Altech Marketing) from the '80's. These models offered trainer-like flight characteristics, but still met with resistance from many seasoned modelers because "trainers can't look like that!"

Modelers think differently today. Maybe it's because ARF's and RTF's have become so good that choosing to ignore them is just plain foolish, but whatever the reason, the "old guard" seems more inclined to accept new concepts, and they look more carefully at truly innovative offerings from the RC industry. In short, the time is right for an RC trainer in the guise of a combat-ready fighter.



Hangar 9 has been producing top quality ARF and RTF aircraft for a long time. They have a lot of experience in giving modelers great flying, great looking airplanes that go together easily and stay together over many flying seasons. When this kind of extensive in-the-trench experience

meets out-of-the-box thinking head to head, the result is bound to be exciting. In this case, it's phenomenal.

Hangar 9 has produced a ready-to-fly RC model of the venerable P-51 Mustang, and it flies like a primary trainer — not because it *mimics* an RC primary trainer, but because it *is* an RC primary trainer.

I was honored to be offered one of the first sample models for review in *Hobby Merchandiser*, and I was immediately impressed with the idea of a major manufacturer taking on so

bold a challenge. I knew the result would be good, although I didn't realize just how good it would be until I had my hands around the transmitter. This model rocks.



Factory-built and covered wing panels slide together over aluminum joiner. Landing gear strap and two screws prevent separation.



Specifications

- Wingspan: 58.25 inches
- Length: 50.5 inches
- Area: 603 square inches
- Weight: 6.5 – 7 pounds
- RC: JR XF421EX 5-channel system with 5 servos
- Engine: Evolution TPS .46

RTF Mustang Features

- It's a PRIMARY TRAINER!
- Factory-built and covered airframe
- Factory-installed RC system
- Factory-installed engine and tank
- Wingtip droops prevent tip stall
- Speed brakes on main landing gear
- Two-position flaps
- Convincing P-51D Mustang outline
- 32-page instruction manual



Hangar 9 Mustang PTS flap linkage is installed in the down position for primary training, and can later be raised or servo operated for intermediate flight. Flap servo cutout is provided in wing center section. Speed brakes come attached to landing gear legs for basic training, and these parts are also removable for intermediate flight.

Here's the deal. The new Mustang has generous wing area, and it's super light so the loading has nothing at all in common with typical models of World War II fighters. The Hangar 9 Mustang has flaps, but they are not landing flaps. They're more like simple lifting devices that help the wing to fly more slowly. The flaps work hand-in-hand with a set of speed brakes on the landing gear legs; the flaps lift the trailing edge while the speed brakes lift the leading edge. All this is reinforced by a pair of clear leading edge devices that prevent tip stall, and also help the wing to lift and remain stable at lower airspeed. It all works.

The model comes in a colorful box that will light a fire under anyone who has ever wanted to fly a "pony" but was afraid that s/he might not be up to the task. The model is complete and 99 percent ready to fly, although there are a few simple steps required to get the model fully ready for the flight line.

The wing panels need to be joined, and this could not be any easier. No adhesives are involved; the wing panels slide over an aluminum tube and are joined at the center by a landing gear strap and two screws. If the wing is to remain joined, a strip of silver UltraCote is provided to cover the seam. No need to worry about the signature P-51 belly scoop; it's held to the wing when the wing bolts are tightened.

The tail section fastens to the rear of the fuselage in what has now become the traditional ARF/RTF manner. The vertical fin has two studs protruding from its lower edge. These studs pass through the horizontal stabilizer, and the whole assembly is placed

on the stabilizer saddle. The studs continue through the rear of the fuselage, where they are secured by two hex nuts and a couple of drops of blue thread lock, attaching the rudder and elevator clevises to the control horns completes the tail section.

The business end of the Mustang also goes quickly. Just install the three-bladed propeller and nylon spinner to get the engine ready, then attach the dummy exhaust pipes with two screws on each side of the fuselage.

The wing flaps can be installed in the up or down position, depending on whether the modeler wishes to use the Mustang for primary training or for intermediate sport flying. Choose the up position for intermediate flight by inserting the flap linkage rod in the forward hole in the wing center tab, then adjusting the flaps for neutral. To lower the flaps for training, disconnect the adjusted linkage and move the linkage rod to the rear hole. When it's all hooked up again, it will drop the flaps. An added bonus is the JR 421EX radio system, which has a two-way switch for a fifth channel. Later on, modelers can open the covering over the servo bay, add a flap servo, and raise or lower the flaps in flight.



Horizontal stabilizer and vertical fin fasten to rear of fuselage in typical ARF/RTF fashion. Tip of dorsal fin uses dowel pin to maintain alignment.





Evolution TPS Trainer Power System comes factory installed. This engine provides ample power for basic training and intermediate flight — three-bladed airscrew looks great, too..

Flaps, tail group and front end behind me, the final step to completion is installing the main landing gear. These units are completely ready to go, and come with the speed brakes already attached with nylon zip ties. The brakes must be rotated so the flats face into the airstream, then the gear is inserted into the wing slots and retained by typical straps and screws.

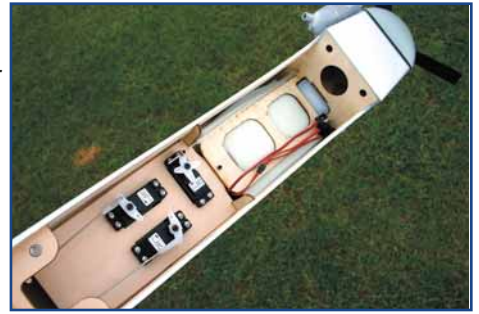
Although my descriptions of the model's final assembly may seem tedious, the entire procedure takes only a little longer than an hour, not bad for getting a World War II fighter ready to fly from box to flightline. I'll take that one any time.

Harris Malkin and I met at the field, both of us in complete confidence that this radical new model would deliver everything it promised, maybe more. We were not disappointed.

We double-checked the Mustang's control surface direction and deflection. Then we checked the integrity of the tail group installation, the wing panels, and the propeller and spinner, then we performed the recommended range check of the JR 421 RC system. Everything looked good to go, so we filled the tank with Byron 15 percent fuel

and connected the glow plug igniter. One hit with my Hangar 9 electric starter and the factory-adjusted Evolution TPS (Trainer Power System) two-stroke engine began to sing. There isn't much, if any, adjustment needed with this engine, as the factory settings are intended to keep needle fiddling to a minimum. Limiters are also in place to keep the needle within optimum range.

RC system is 100 percent factory installed and adjusted. Plenty of room in the fuselage bay, and aileron/charge leads are tagged to prevent mixup. JR's 421EX is billed as a four-channel system, although it comes with a switched fifth channel that can be used to operate flaps for the Mustang PTS. Hangar 9 Trainer Link allows buddy hookup with JR or Futaba transmitter.



After the usual nose-to-the-sky engine check, I went for the camera as Harris headed the Mustang PTS for the taxiway. A final flip of the control surfaces, and Harris throttled up and began the takeoff roll. This is where the fun really started, and where the Mustang PTS showed us the first of its many friendly training characteristics.

Harris and I were watching this convincing sport scale model of a P-51 head up the runway, but no particular attention was needed to maintain a straight roll. The Mustang is a tail dragger, but this model needed no special

care on the elevator to track true. The model gradually built speed, lifted the tail when it was ready, and broke ground with a slight nudge of up elevator. The takeoff couldn't have been more controlled with a boxy trainer, but we just watched it happen with a heavy metal fighter. Could this be a turning point in RC flying? Absolutely!



Hangar 9's new P-51 Mustang PTS was part of a very pleasant "Horizon Hobby Day" at the Lancaster County RC Club flying site for HM's Jeff Troy and contributing writer Harris Malkin. Hangar 9 flight box and field accessories, JR knee pad, E-Flite Tribute foamy, Hangar 9 P-40E Warhawk and JR 6102 transmitter in background. Photo at right shows Mustang PTS ready to go for its maiden flight — what a great look for an ideal primary trainer!



The Mustang PTS headed skyward — slowly. The flap/speed brake/leading edge device combination was working perfectly, and even though the illusion was a fierce and powerful American fighter, the model at the end of the stick was completely under control, gentle as a thermal duration sailplane, and as easy to fly as a typical high-wing cabin design. This just keeps getting better every second.



After the results of the stall tests at altitude, Harris had no apprehension about slowing the model down for the landing approach. The Mustang softened up and came in as predictably as any trainer, with a long flat glide to the spot, aided by a little throttle if the approach looked short. Touchdown and rollout are also smooth, and this tail dragger is as easy to control on the way back as it is on the taxi out and takeoff roll.

We gave the model a few minutes to cool, then filled the tank again. This time, I took the airplane up, and echoed Harris' enthusiastic reaction to the way it flies. Harris said, "I have no prob-

Hangar 9 Mustang PTS on final approach. Model is smooth and predictable, almost stallproof.

Harris tried a few gentle turns, and quickly learned that gentle is the only kind of turn this model will make. You can coax a barrel roll out of the Mustang, but it's nothing that the model will do on its own. Harris went for altitude, then powered down and kept the elevator pulled back to induce a stall. Eventually, the airplane ran out of airspeed, but the stall was gentle and predictable.

Inverted flight was perfect for a trainer, which means that the airplane simply will not fly inverted in the flap down/speed brake trainer mode. This is another bonus point for the Mustang PTS, clearly indicating that its designers knew where they wanted this model to place in the trainer market, and made sure that it got there.

blem recommending this model as a primary trainer. It's a great primary trainer." I couldn't agree more.

So, my friends, here is the airplane that has eluded every hobby dealer since the dawn of post-WWII RC flight. Hangar 9's new P-51 Mustang Progressive Trainer System is an outstanding primary trainer with an aggressive appearance, a genuine sheep in wolf's clothing. This airplane will convince even the most die-hard old timer that today's technology can produce a perfect Mustang trainer.

For more information about the new and innovative Hangar 9 P-51 Mustang Progressive Training System, see the ad on pages 6 and 7, or telephone Horizon Hobby in Champaign, Illinois, at 217- 352-1951. **HM**



Hangar 9's P-51 Mustang PTS (Progressive Training System) flies as gently as typical high-wing cabin designs — but it's a Mustang.