



# FW 190B PNP

**Tony King favours warbirds, so we asked him to examine this 1200 mm span PNP version with flaps and retracts from Top R/C Hobby**

## Full Size Development

The Focke-Wulf Fw 190 Würger was a German single-seat, single-engine fighter aircraft designed by Kurt Tank in the late 1930s and widely used during WWII. Along with its well-known counterpart, the Messerschmitt Bf 109, the Fw 190 became the backbone of the Luftwaffe's Fighter Force. The twin-row BMW 801 radial engine that powered most operational versions enabled the Fw 190 to lift larger loads than the Bf 109, allowing its use as a day fighter, fighter-bomber, ground attack aircraft, and to a lesser degree, night-fighter.

The Fw 190A started flying operationally over France in August 1941, and quickly proved superior in all but turn radius to the RAF's main front-line fighter, the Spitfire Mk.V, especially at low and medium altitudes. The '190 maintained superiority over Allied fighters until the introduction of the improved Mk.IX Spitfire in July 1942. In November/December 1942, the Fw 190 made its air combat debut on the Eastern Front, finding much success in the specialised ground attack units called 'Schlachtgeschwader' (Battle Wings or Strike Wings) from October 1943 onwards, following the re-designation of all former dive-bomber wings at that time.

## About the Model

The review model arrived in a well-packed and colourful box (I must admit that I was amused by the 'Chinglish' description on the box!). Inside all parts were individually bagged and taped to prevent movement in transit. The version I have is the Plug-N-Play version, which comes without radio, battery or charger.

Included are an illustrated manual and some basic tools for assembly.

The model is constructed entirely of EPO foam, which is very light and durable, and is very accurately detailed and pre painted to a very high standard.

## The Fuselage Parts

The fuselage comes fully equipped with all servos pre-fitted and connected to the control rods that operate the

rudder and elevator, there is also a steerable tailwheel fitted and this is connected via a control rod to the rudder servo.

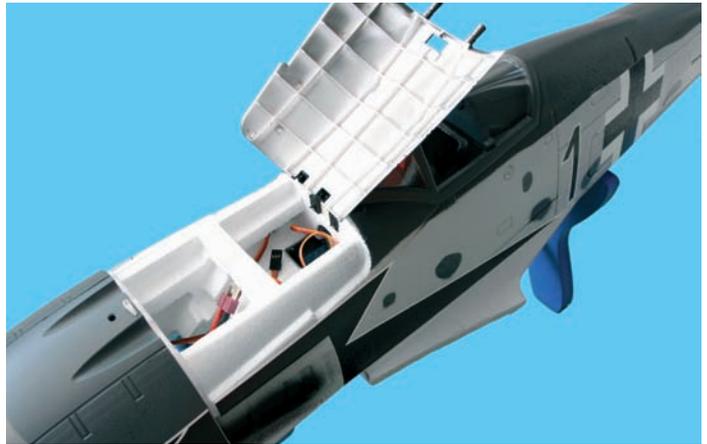
Access to the battery/radio compartment is via a hinged gun-mount/hatch cover, which is constructed from a very heavy-duty, but light, hard plastic.



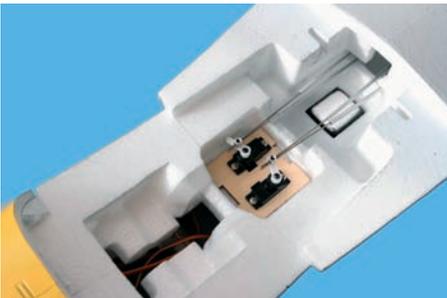
**Distinctive, colourful box and well finished moulded and painted airframe parts with servos fitted**



Dual pushrods for elevators, and rudder/steering tailwheel



Battery bay access hatch opened for inspection



Rudder and elevator servos

Behind the cowling (which is also constructed from the same hard plastic) there is an installed brushless motor that resembles a very large bell type motor, which is flange mounted onto the rear firewall. The motor shaft, that also carries a scale looking fan, is quite long when the spinner and prop is mounted, giving me some concern regarding the durability of the shaft should the model 'nose over' on landing. Only time will tell!

The motor is an AT3511-750 kV brushless, this is connected to a 40 Amp BEC speed controller. All installed servos are standard 9 gram.

**The Wings**

The one-piece carbon reinforced EPO foam wing comes complete with working scale flaps and electric retracts; the retracts have sprung steel oleo legs with moulded plastic dummy suspension units attached. These are a standard size non-scale retract unit as the original full size have quite long spindly legs.

All control surfaces have moulded in hinges; the flaps have additional tape fitted to the hinge line. Servos are pre fitted and connected to the control surfaces. They really do not look out of place on this model. The wheel bay doors operate separately by a purpose made servo/gear unit.

Also pre fitted into the wing are working navigation lights on the wingtips. These are high-density LED lights, which are constantly flashing when in use.

All servo wiring is clearly marked with channel numbers, ailerons and flaps are on Y-leads and there is a sequencer attached to the gear door servo lead.

**Horizontal Stab**

The horizontal stabiliser does not appear to have any carbon reinforcement and is quite bendy. After the initial review flights I may be inclined to cut a shallow slot and fit a piece of carbon flat for peace of mind.

The manual makes no reference to fitting the stabiliser apart from "Insert the horizontal wing into the fuselage" with no mention of glue whatsoever – admittedly it's a tight fit! A good tip here is to install the stabiliser first before fitting the second supplied servo horn to the split elevators.

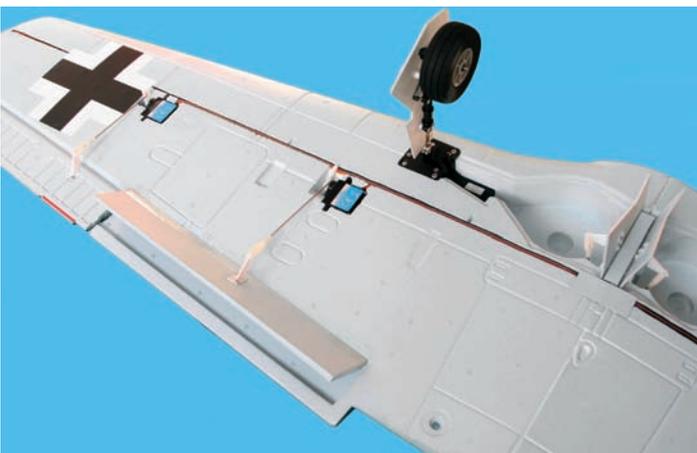
**Assembly**

The only bit of assembly (apart from the stabiliser) is fitting the wing to the fuselage. This will involve pushing the loom of servo cables up through the fuselage to the radio bay prior to securing the wing into place with the two screws provided, ensuring that the

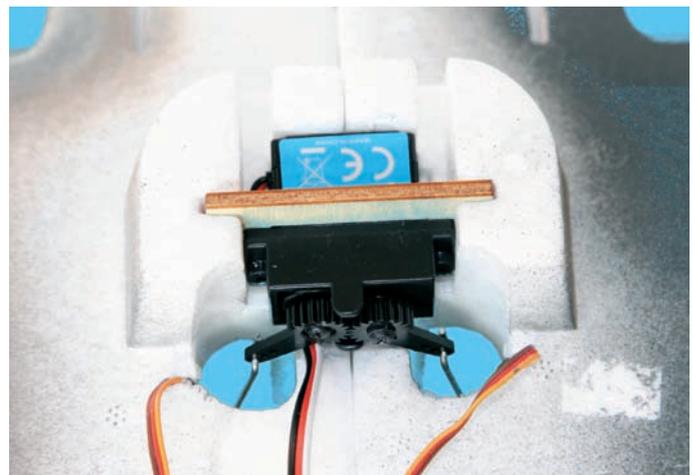


Neat bell motor with scale cooling fan

**“ one piece carbon reinforced EPO foam wing comes complete ”**



Wings are fully fitted with ailerons, flaps and electric retracting undercarriage



The gear door servo; note double output gears



**The short undercarriage enables stability on grass and lumpy runways**

wing is fully seated on the fuselage as it's quite a snug fit.

You will of course have to fit the prop and spinner. The supplied prop is a 3-bladed unmarked prop. When mounting the prop ensure that it is seated correctly on the hex nut otherwise the spinner will not seat correctly.

A suitable 6-channel Rx can was fitted in the rear compartment, accessible from the top of the fuselage. With all servo plugs in place you can fit a 3S 2200 mA LiPo battery into the forward compartment. The speed controller is fitted with a Deans plug, which luckily was the same as my LiPo.

### Final Set Up

As there was no recommendations for the control throw settings in the manual, it was decided to go with the default mechanical settings and make any necessary adjustments during the test flight.

A 2200 mA LiPo was fitted and the radio was bound in; unusually all control surfaces including the throttle operated in the correct direction.

A watt meter was attached and the throttle was fully opened, the model was found to be drawing 35 Amps at 400 Watts, which was well within the limits of the supplied 40 Amp speed controller.



**Low and fast for the camera**

Finally the model was placed inverted on a balancer and 10 grams of weight was required at the tail to balance the model to a C of G of 75 mm from the leading edge. Strangely, there is a large balance weight pre-fitted in the cowl of the model, which may not be required (this, of course would depend on the weight of the LiPo battery used). The test flight will highlight any changes that may be required, and for this I hand over to my test pilot Brian Cooper while I take the photos!

### Maiden Flights

I get the star prize! Someone else does all the hard work of putting the model together, and then I get the tranny bunged into my hands for the test flights whilst Tony took the photographs.

The first and subsequent flights were done in the week between Christmas and New Year. The day itself was barely above freezing, and a gentle breeze from the north made it feel a bit chilly (typical British understatement), but the sun was shining brilliantly and we needed to get some photos so we donned our thermal socks and set forth to the flying field.

Having familiarised myself with where the various functions were located on Tony's Tx, and also checked-out the model for weight, balance, power, etc., we got down to the business of flying.

The LiPo was connected and the model was placed on the runway, with its nose pointing into the wind. Here the Fw 190 looked superb sitting on the ground with the sun beating down on it.

The throttle was opened and off we went. The model tracked straight and true and



**Plenty of power for steep climbs**



**He's got you in his sights!**

was airborne in a couple of seconds, then the wheels were retracted with a flick of a switch and we gained some height to check out the trim.

As it turned out, it didn't need any trim alterations and it just flew as straight as an arrow wherever it was pointed. Your reviewer had set this one up nicely and it was a sheer joy to fly at any power setting.

So next it was flown back down to low level for the camera passes. With each passing minute, confidence in the Fw 190 grew and it became more and more pleasurable to fly.

Quite often (some) warbirds can be a teensy bit demanding to fly, especially the smaller ones, but this one was in its element and it revelled in being airborne. The low wing loading was clearly working in our favour and the model could be banked and turned very smartly without any worries about snapping into a high-speed stall.

The controls were nicely harmonised and the control authority was more than adequate for scale (type) flying. The model responds very smoothly to control inputs and it does silky rolls (with a roll rate of about one per second) and large loops without any heart-stopping moments. Flying inverted requires the usual tweak of down

**“ The stall speed is extremely low ”**



Plenty of power here for big loops



Good clean aileron rolls and steady knife-edge flight

elevator to hold the nose level. It is all brilliantly well behaved and the model tracks like it is on rails.

However, the rudder authority, whilst okay for ground handling and generally flying about, was a bit slack for aerobatics and the model was only just capable of performing positive spins, although, curiously, it did better spins inverted. But it wasn't keen on exiting from this manoeuvre inverted and, initially, we found we had to resort to exiting the right way up, so if you are planning on trying this one, it would be wise to leave some height in reserve whilst experimenting.

It is probably unfair to judge a model of this type on some of the more demanding 'twiddley' aerobatics as it is unlikely that these manoeuvres will be undertaken by the anyone blessed with the gift of sanity, but we do like to see how far a model can be pushed before it reaches its limits.

There is definitely 'something' about German WWII warbirds that make them look exquisitely menacing when flown low across the countryside, and this one is no exception. When flown fast and low and beating-up the patch, one wing slightly down, the sun reflecting off the entire model, it can make the hairs on the back of your neck stand on end.

Flying with the wheels down makes the model pitch its nose down slightly, but it isn't severe enough to worry about.

The flaps do work but they are not particularly effective. They would definitely

**Inverted flight presented no issues and is rock steady**

benefit from more movement to get them out into the breeze. As it is, full flap makes the nose pitch up very slightly and there is no noticeable effect to the stall speed.

The stall characteristics vary depending on how much power is applied. With no power, the wing drops gently and the model nonchalantly goes looking for airspeed to correct itself, but with about 30% power the wing drops more violently (to the left) and needs slightly quicker fingers to catch it, but even then it is still fairly tame. The stall speed is extremely low and we had to really go to extremes to provoke the Fw 190 into dropping out of the sky.

Landing it is a dream! The descent is very stable and controlled with power, and the model is so well behaved it just comes in straight and true. The radial engine front end creates noticeable drag when the power is reduced to nil, so it is best to approach with some power on rather than gliding in. This is fairly standard procedure on models with this type of 'draggy' front-end.

**In Summary**

This Fw 190 from Top R/C Hobby not only looks good and quick to assemble, but it flies really well too! Having now had several flights with it, the experience of flying it just keeps getting better and better. Nothing has broken or fallen off (which is nice!), and it just rewards us with superb flying. This one is definitely a winner! **Q&EFI**



Wheels and flaps down for a perfect landing, with just a little power

**Flight Specification**

**MODEL INFORMATION**

- Name:** Fw 190B PNP (1-TOPM-FW190B)
- Manufacturer:** Top R/C Hobby
- Distributor:** Century UK
- Price UK:** £159.99
- Model Type:** Semi-scale Warbird
- Motor:** Brushless AT3511-750 kV
- Speed Controller:** 40 Amp w/BEC
- Battery Req:** 3S 2200 mAh 20C LiPo
- Construction:** EPO Foam
- Retracts:** Servoless electronic, sequencer controlled with gear doors

**R/C FUNCTIONS**

- Seven 9 g servos fitted:
- 1:** Throttle (ESC)
- 2:** Ailerons
- 3:** Elevator
- 4:** Rudder
- 5:** Flaps
- 6:** Retracts/Gear Doors

**SPEC.**

- Wingspan:** 1200 mm (47¼")
- Length:** 1020 mm (40⅞")
- Flying Weight:** 1600 g (3 lb 9 oz)
- Thrust:** 1700 g (3 lb 13 oz)

**TEST**

**Dislikes**  
Poor assembly instructions

**Likes**  
Scale detailing  
Quick assembly time  
Good quality  
Superb flight handling

**Contacts**

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