



THE FEARED GERMAN

PHOENIX FOCKE-WULF FW 190

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We have often talked about some of the great aircraft that were developed during the WWII era but rarely look at the "opposition".

By the opposition we refer to the Germans.

Yes, the Spitfire and Mustangs have captured our hearts over the years, but the Germans also knew a thing or two about making aircraft.

The backbone of the Luftwaffe's fighter force was the Focke-Wulf FW 190.

The FW 190 first flew in prototype form in 1939 but entered the war effort in 1941 over France.

It proved to be a capable aircraft with superior performance than the Spitfire Mk. V except for its turn radius.

Upon researching the FW 190, it became very clear that this plane was a big advancement in aircraft design.

Its wide stance undercarriage, pushrod rather than cable control surface connection, electrically powered equipment and radial engine are just a few improvements on previous model aircraft.

Models of the FW 190 are made by quite a number of manufacturers but one of the most recent releases comes from Phoenix Model.

The latest offering is a 16% model that can be powered by .120 nitro engine or 20cc gasser as well as a suitable electric power plant.

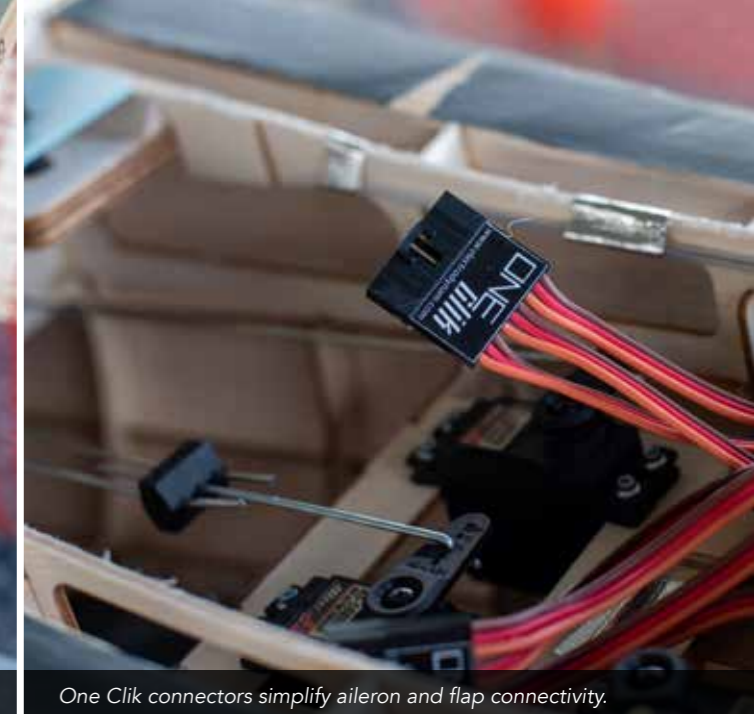
The model can be considered medium size in this era where bigger is always better.

The wingspan is 1720mm, or 68" in the old scale and the fuselage length 1480mm. Flying weight is around 5.5kg.

We have always found that Phoenix scale models offer excellent value for money as they mix great scale looks with great flying characteristics, but would the Focke-Wulf continue that trend? Thanks to the local distributor, O'Reilly Model Products, we were about to find out.



Beam mount simplified motor mounting.



One Clik connectors simplify aileron and flap connectivity.



23cc gasser spinning 16x8 prop provided the perfect powerplant combination.

The ARF comes beautifully covered in a matt, printed scheme that really does look striking in real life.

The all balsa and ply construction is consistent with the Phoenix design philosophy which is to build it strong. Strong often equates in an airframe that is a little heavier though.

The model comes with mechanical retracts on the main wing as well as a scale cockpit and pilot to add to the appeal.

The build

The task of building the FW 190 was given to our resident Flat Out RC builder in Domenic Ilesue.

Domenic is a well-known figure in flying circles in Melbourne and has a long history of building models as well as being a heavy model certifier.

The FW 190 is an ARF and, upon reading the instructions, was a pretty straight forward build for anyone that has some experience building similar aircraft.

A total of nine servos are required; 2 aileron; 2 flap; 1 elevator; 1 rudder; 1 throttle, 2 retract gear.

Our choice of servos were the Hitec HS-5685 servo for all control surfaces and Hitec HS-75BB retract servos.

The HS-5685 are a high voltage capable, digital metal gear servo which offers

up to 12.9kg at 7.4V. This would give us more than enough torque on the control surfaces which can be described as more scale size than 3D aerobatic.

The HS-75BB is a dedicated retract servo to drive the mechanical retracts. These servos are a simple device that act like a switch rather than proportional control so perfect for mechanical retracts. Our tip is that your mechanical setup needs to be spot one as the end points are not programmable on this servo. A programmable servo would make life a little easier, we think.

Domenic tackled the wings first and reported a very straight forward build, but he did have to pay attention to the linkage throws to ensure there was no binding.

FLAT OUT 5-STAR RATING

Build quality:	★★★★☆
Ease of build:	★★★★☆
Speed:	★★★★☆
Manoeuvrability:	★★★★☆
Suited to:	Intermediate to advanced pilots
OVERALL RATING:	★★★★☆



The scheme is amazing but time will tell whether the stick on vinyl like covering handles the harsh Australian environments.

Hinging on the wings, including flaps and ailerons, were all of the Robart style hinge which do take a little extra time to install but are a robust solution that should last countless flights.

The main wing proved to be quite heavy with three servos in each wing to cover aileron, flap and retracts. We would have loved an electronic retract to reduce the servo count and have a simplified solution.

In fact, the trickiest part of the otherwise straight forward build is setting up the retracts, according to Domenic. The installation of the retract assembly was as simple as screwing in four screws and gluing in the wheel wells. We did find that the servo retracts are mounted differently on each wing with one servo

installation providing a tricky rod throw to the retract. We did have some binding issues that was solved by using a ball link rather than the supplied kwik link.

The two wing halves are held together with an aluminium tube, but the instructions call for the wings to be glued together as well, so we did.

Next build step was the rear of the plane starting with the elevators.

The elevator hinging uses CA style hinges which make them simple and quick to install. The elevator servo is located in the forward section of the fuselage and connected to the elevator halves via connecting rods.

The rudder is attached via Robart style

hinges and is also connected to a servo located at the front of the fuselage. The tail wheel is connected to the rudder and it seems to be a decent and effective solution.

A Futaba receiver was used with the entire electronic setup powered by twin 2200mAh LiFe packs. The batteries are connected to a failsafe switch that allows for two batteries to be used for redundancy in the event one fails.

We chose a gas power plant for propulsion though electric and nitro power is also an option. Our motor of choice was made simple and was based on what we had available to put in the model.

The motor used was a JC EVO 23cc





Retracts were a little tricky setup but worked a treat.



Cockpit detail and pilot add to the looks.

gasser. This motor is a few years old but had been running in another model, so we knew it was reliable. We can't find much information about these motors but the finish of it is top notch with a full CNC case.

We used a 16x8 prop which proved to be perfect for this airframe and motor.

Engine mounting is via a supplied beam mount which simplifies installation. A template is provided for different motors that will guide where the mount needs to be connected to the firewall.

Fitting with our usual policy, we did replace the supplied tank with a pre-assembled, clear, 9oz tank sourced from DL Engines Australia.

The gassers ignition is powered by the receiver batteries via a Tech Aero iBec. This system eliminates the needs for an ignition battery and draws the power from the receiver packs. The unit also acts as a kill switch.

With all the main components in, we did a CG test to determine where we would install the batteries. The test showed the plane was tail heavy so batteries were installed as far forward as we could and 130g of lead was added to the front of the cowl.

Radio setup complete and now it was off to the field.

The Flying

If you were expecting to see this issue on the shelves a little earlier than normal well we have a good reason for the delay in getting it to sale. We blame the Melbourne winter weather.

We had to wait for a clear day of flyable weather to get the FW 190 in the air but that day finally came and we rushed to the field to see how the plane flew.

Setup at the field is very simple with the one-piece wing design and simple

mounting. Two nylon bolts hold the wing in place with the bolts screwing vertically into the fuselage. It does help if you invert the plane to attach the wings so having a suitable model stand will help. You also need to remember to connect the flap and aileron leads in before securing the wing.

To help us with the wing servo connections we purchased some One-Clik servo leads from Albury RC. These little servo lead extensions simplify flap and aileron connectivity by combining both servos leads into one connector. No fuss and no confusion as to which lead goes where into the receiver.

A quick test of the retracts and then onto the ground for an engine test.

As our engine had been run before, we knew that it would fire but was surprised that, when started, the tune was spot on. With the engine guru Brian Winch's words ringing in our ears, we left the tuning needles alone and bolted the

cowl and spinner on ready for a flight.

The full-size FW 190 was designed to have a wide stance to improve ground handling and this did not change in scale format with excellent ground handling performance.

We always err on the side of caution when it comes to a maiden flight so made sure we had ample space for a good take off run.

With the power smoothly applied, the FW 190 took to the air after a short take off run and we settled into a circuit. A little trimming was required with a few clicks of up elevator and right aileron.

With the planes settled, we quickly determined that the FW 190 would require piloting like a warbird should, meaning a little more power to keep the plane flying. If you get too slow it will drop a wing so best to keep the plane on song rather than 3D style flying. The weight of the plane does not help its stall characteristics.

The FW 190 will slow down when straight and level but the speed needs to be kept up in the turns.

The JC EVO 23cc motor provided ample power which helps the FW 190 easily achieve basic aerobatic manoeuvres but don't get too carried away as the airframe does have its limitations. It is no 3D aerobatic plane but does achieve its purpose of being a great scale warbird.

The FW 190 was easy to land but you do need to hold some up elevator to get it to settle on the ground nicely.

We felt that more lead was needed in the nose and a little down thrust needed as the plane did pull up under power.

The plane looks amazing on the ground and the scheme, which is a vinyl applied job, great. It does have a matt finish making it harder to get engine grime off. Time will tell whether the elements will effect the scheme.

From the build to the flying, The Phoenix Models Focke-Wulf FW 190 is a worthy scale warbird.

Its size offers great presence in the sky and the added enjoyment of retracts and flaps make it a great plane to command.

We didn't like the retract complexity nor the weight of the aircraft but the quality of the kit and supplied components make this a great value for money warbird.

We definitely believe that if a German warbird is on your radar then consider the Focke-Wulf FW 190 from Phoenix Models.

The FW 190 in this size is a new model in the Phoenix range and we have been told that stock is arriving and will be available from all good hobby stores very soon.