

CERMARK SUPERMARINE Spitfire MKIX ARF



Warbird beauty



by Jim Onorato

In the summer of 1941, the new German Focke-Wulf FW-190 fighter began showing up in combat over the skies of Northern France, and British Spitfire pilots soon became sitting ducks when pitted against this new, superior warbird. However, it did not take the British long to react as they quickly scrambled to create an airplane equal to this powerful adversary. Thus, the Supermarine Spitfire MkIX was hastily put into production. Originally thought of as a stopgap Spitfire, the MkIX actually

stayed in production through 1944 with 5,665 produced.

Cermak, in collaboration with Top Gun R/C Aircraft and their distributor in the UK, CML Distribution Ltd., decided it would only be right to begin their line of warbirds with a Spitfire, and there were none better than legendary WWII fighter ace Johnnie Johnson's MkIX. Air Vice Marshal James Edgar "Johnnie" Johnson was an RAF pilot who shot down 38 Luftwaffe aircraft during World War II, earning the most kills during the war.

PHOTOS BY WALTER SIDAS

SPECS

PLANE: Supermarine Spitfire MkIX

MANUFACTURER: Cermak

DISTRIBUTOR: Cermak

TYPE: Sport-scale warbird ARF

FOR: Intermediate to experienced builders and fliers

WINGSPAN: 71 in.

WING AREA: 852 sq. in.

WEIGHT: 10 lbs., 14 oz.

WING LOADING: 29.4 oz./sq. ft.

LENGTH: 62.2 in.

RADIO: 5 channels, (6) servos required; flown with a Futaba FP-T7UAP transmitter, FP-R127DF receiver, (3) 148 Futaba servos for ailerons and rudder, (2) 128 Futaba servos for throttle and retract valve and (1) DAD high-torque Pro-Flex servo for elevator.

ENGINE: .91 two-stroke to 1.20 four-stroke; flown with O.S. .91 Surpass four-stroke

PROPELLER/SPINNER: 15x6 APC; kit spinner

TOP RPM: 8,600

FUEL: 15% Sig

ONBOARD BATTERY: 1100mAh NiCd, 4.8V flat pack

PRICE: \$399.95

COMPONENTS NEEDED TO COMPLETE: Radio, engine, prop, fuel tubing, extensions and Y harness

SUMMARY

This is the first warbird in Cermak's line of ARFs. It is a very complete ARF, with plenty of scale detail and superb workmanship, and the matt finish makes it look like a kit-built model. The flight performance is awesome and very scale-like. The MkIX, designed around .91 two-stroke to 1.20 four-stroke engines, weighs in at nine to 11 pounds depending on engine choice. The plane comes pre-finished with all decals and markings applied.



AIRBORNE

We had a nice, sunny and relatively calm day for initial flight testing. I set the control throws in accordance with the recommendations in the instructions and dialed in 40% exponential on rudder, elevator and ailerons. With my usual preflight check of the controls completed and the O.S. .91 running on the rich side, I pointed the Spit into what little wind there was and slowly advanced the throttle. The tail came up immediately and a quick input of up elevator was required to keep the plane from nosing over on the grass runway. I continued to increase power and let the plane accelerate on the mains. Little or no rudder input was required to keep the plane tracking straight ahead and, before I knew it, the Spit was airborne. The smooth, scale-like takeoff followed by a gradual banking turn showing off the Spitfire's trademark elliptical wing was a beautiful sight. Once it was airborne, I could tell by its response to control inputs that this was one solid warbird.

Slow-speed flight is smooth and predictable as the Spitfire remains responsive to control inputs over a wide range of speeds. Its

stall is gentle but not straight ahead, as its left wing has a tendency to drop in the stall. The O.S. .91 Surpass provides more than enough power for the MkIX to fly at a fast scale speed. I'm glad I didn't overpower it. Although there is no significant increase in speed when the wheels are retracted, it sure looks pretty that way.

Axial rolls require coordinated input of aileron and elevator to keep them truly axial. Barrel rolls look better and more natural for the Spit. The plane does nice, large round loops with no tendency to roll out at the top or the bottom and it will fly inverted with elevator input to maintain altitude. Knife-edge flight is good but, again, elevator input is required to correct for pitching toward the underside. I did not find any bad tendencies as I put the Spit through its paces. It is a smooth, stable flyer at all speeds and it flies like the warbird that it is.

Wheel landings at moderate speeds seem to work best for the Spitfire. I just let it settle in on the mains and roll out until the tail comes down

THE KIT

The Cermark Spitfire comes with just about everything you need except for the engine, radio, prop and fuel tubing. It is a well-made ARF with a pre-finished fiberglass fuselage with molded fin and detailed panel lines and rivets, detachable flush-fitting fiberglass cowl and separately fitted (not molded in) Merlin exhaust stacks. It has a built-up balsa elevator, rudder and wings. The Spitfire comes painted with a matt-finish olive drab and gray camouflage color scheme. The flying surfaces are covered with matching camouflage Oracover and the color match is perfect. All decals and markings are applied. The wings are fitted out for the "air up, spring down" retracts included in the kit. Other scale details include molded air intake and radiators, 20mm cannon and aerial, wheel-well inserts for the wings and wheel doors. A CD is included that contains the 15-page

instruction manual and numerous pictures of the finished model. If you don't have access to a computer, I'm sure Cermark will send you a hard copy of the instructions.

ASSEMBLY

As with most ARFs, you begin assembly by hinging the ailerons and installing the aileron servos. The Spitfire features CA-type hinges for all control surfaces. Two aileron servos get mounted on removable servo hatches that already have the mounting blocks attached. If you use standard-size servos, they will fit right in without any modifications. Sixteen-inch extensions are required to bring the servo wires out of the root of the wing.

Openings are cut in the wings to accept the plastic wheel wells included with the kit.



The servo tray holds the servos for the rudder (upper left), throttle (upper right), elevator (middle left), and retract valve (middle right) as well as the receiver and the retract air control valve. The pressure gage and air fill connector are located behind the servo tray.

The wheel wells have to be trimmed before being glued in place. I left an eighth-inch flange all around the wells for gluing and found I had to enlarge the openings in the wing a bit and sand a radius on the edges of the opening to get the wheel well to lie flat. The instructions were evidently written



when “air up, air down” type retracts were included, as they make reference to hooking up two air lines to each retract. The retracts provided with the kit only need one air line per unit.

The retract legs are longer than required and have to be cut to length. I determined the proper amount to cut off by temporarily installing the wheel well and retract then measuring how far the axle was off center in the well. I then removed the leg from the retract mechanism and cut off the required amount from the straight end. You may find it easier to actually mount the wheel to the leg and measure from the bottom of the wheel to the edge of the well. Plywood wheel-well doors are provided but are only painted on one side. I painted the other side with light gray epoxy paint to match the painted side and the underside of the wing and used PFM to attach the doors to the gear legs.

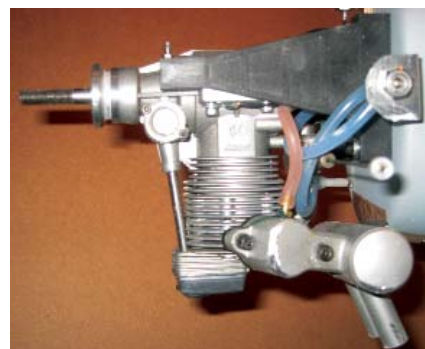
The wing halves are joined with two plywood dihedral wing joiners and 30-minute Z-Poxy after the ailerons, servos and retracts are installed in each half. The two cannons and molded radiators included in the kit really add a nice touch of scale detail to the Spitfire. Be sure to remove the covering from the area inside the outline of the radiators to provide a good surface for gluing. The wing attaches to the fuse in the conventional manner—two dowels at the leading edge and two nylon bolts at the trailing edge.

The fin is molded as an integral part of the fuse, which makes installing the tail feathers quite easy. The stab gets epoxied in place in the cutout in the fuselage and the elevator halves are attached afterward. The fit between the fuse and the elevators is very close, so make sure the elevators are centered properly before applying CA to the hinges. A simple tail wheel with a nylon mounting bracket is provided. The bracket gets attached to the bottom of the fuse and the tail wheel is driven by the rudder, which is attached with CA-type hinges. Standard nylon control horns and clevises are used on the rudder and split elevator.

O.S. .91 SURPASS

I decided to use an O.S. .91 Surpass four-stroke engine to keep the cutouts in the cowl to a minimum. The engine was installed inverted on the two plastic motor mounts provided in the kit and fitted with a Slimline Pitts-style muffler, 15x6 APC prop and the plastic spinner supplied with the kit. With an engine at the lower end of the recommended range, my Spit came out quite tail heavy and I had to add 16 ounces of lead in the nose to get the plane to balance properly. This brought the overall weight up to 10 pounds, 14 ounces, resulting in a wing loading of 29.4 oz./sq.ft.—high but not too bad for a warbird.

The rudder, elevator, throttle and retract valve servos as well as the receiver, and retract control valve are mounted on the pre-installed servo tray. The rudder pushrod is made up using a wooden dowel with music wire at each end, one threaded and one not. The elevator halves use a wooden dowel with two threaded music wires at the elevator end and a single, unthreaded music wire at the servo end. Exit slots for the rudder and elevator pushrods are located at the rear of the fuse. Nylon clevises and swing keepers are used to attach the pushrods to the control horns and servo arms. A very short wire pushrod is used for the retract control valve. A computer radio is useful here, as the stroke of the servo arm needs to be shortened electronically as very little movement is required to operate the air control valve. The air reservoir for the retracts is positioned under the servo tray.



O.S. .91 Surpass 4-stroke with Pitts-style Slimline muffler.

The fiberglass cowl is very well made and is pre-finished with fitted Merlin exhaust stacks installed. It is flush-fitting and attaches to the fuse with four small screws. A pre-finished fiberglass chin air scoop is also provided. This can either be bolted to the underside of the fuse or epoxied in place. I chose to do the latter.

The Spitfire does not include a pilot figure or instrument panel. I used a Hangar 9 British WWII pilot figure and applied a few instrument decals I had on hand to finish off the cockpit. The pre-painted canopy was trimmed and attached with the supplied matching painted screws. The final touch was the addition of the fiberglass aerial, which I drilled out so the receiver antenna could be fed through in a scale-like manner out to the top of the fin.

CONCLUSION

Cermark has come up with a real winner with its first warbird. I enjoyed building this classic WWII airplane and enjoy flying it even more. It looks like a built-up kit and rivals in appearance what most of us could do ourselves ... well, yours truly anyway. You will be proud to take this one to your field. I have nothing but praise for Cermark's first entry into the world of RC warbirds. I hope they keep up the good work. 🍀

Links

APC Propellers, distributed by Landing Products, www.apcprop.com, (530) 661-0399

Cermark, www.cermark.com, (562) 906-0808 (Information only), (800) 704-6229 (Orders only)

Hangar 9, distributed exclusively by Horizon Hobby Distributors, www.horizonhobby.com, (877) 504-0233

O.S. Engines, distributed exclusively by Great Planes Model Distributors, www.osengines.com, (800) 682-8948

SIG Manufacturing, www.sigmfg.com, (800) 247-5008

Z-Poxy is manufactured by Pacer Technology, www.zapglue.com



For more information, please see our source guide on pg. 185.