

MAXFORD USA

Nieuport 28

by Roger M. Post Jr.

A convenient, semi-scale WWI fighter**SPECS****PLANE:** Nieuport 28 40" ARF**MANUFACTURER:** Maxford USA**DISTRIBUTOR:** Maxford USA**TYPE:** Midsize, semi-scale WWI biplane**FOR:** Intermediate to advanced pilot**WINGSPAN:** 40 in.**WING AREA:** 380.25 sq. in.**WEIGHT:** 37 oz.**WING LOADING:** 14.01 oz./sq. ft.**WING CUBE LOADING:** 8.62**LENGTH:** 33 in.**RADIO:** 4 channels required, with three servos; flown with a Spektrum DX7 transmitter, a Spektrum AR6110 receiver and 3 Hitec HS-55 Feather servos**POWER SYSTEM:** Maxford USA Uranus 28309 outrunner brushless motor, Maxford USA Uranus 25-amp brushless ESC, Thunder Power 3S 11.1V 2200mAh 25C extreme V2 LiPo battery, EMAX 9 x 6E electric propeller**FULL THROTTLE POWER:** 28 amps, 312.48 watts, 8.93 watts/oz, 142.85 watts/lb**TOP RPM:** 8,685**DURATION:** 10 minutes**MINIMAL FLYING AREA:** Sports field**PRICE:** \$155.99**COMPONENTS NEEDED TO COMPLETE:**

A transmitter, a receiver, 3 micro servos, 25-amp outrunner brushless motor, 25-amp brushless ESC, 3S 11.1V 1300 to 2100mAh LiPo Battery and compatible charger, 9x6E electric propeller and a separately available optional Detail Upgrade Package that contains a windshield frame, wheel covers, cockpit coaming, stall horn, air intake tube and a 1/8 scale WWI pilot

SUMMARY

The build quality on this ARF is superb, and its airframe is much stronger than the standard laser-cut built models I have seen. Lots of interlocking structures help to provide the rigidity. The covering is well-done, too, and you'll want to pick up the optional Detail Upgrade Package, as it adds the required finishing touches that enhance the Nieuport 28's overall appeal.

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PHOTOS BY WALTER SIDAS

detaching from its plywood structure, but that was soon remedied. It served with the AEF for only five months before being replaced by the SPADs.

However, a few U.S. aces got their starts and some of their initial victories in the 28, including the U.S.'s top WWI ace Capt. Eddie Rickenbacker of the 94th Aero Squadron, a.k.a. "Hat in the Ring" squadron, who's Nieuport this model resembles.

Maxford USA's 1/8 scale N.28C-1 is a solidly built model that consists of lite ply and balsa structure that is pre-covered. When I looked inside of the fuselage to check out the build integrity, I was reminded of the old days and how models used to be built. From the forward fuselage all the way to its aft section, this model is solidly built. When the time comes, the "beefed up" forward section will help in balancing the model.

The fuselage, wings and tail surfaces are jig-assembled from laser-cut balsa and plywood and pre-covered, with pre-cut hinge slots and CA hinges with pre-punched pinholes for alignment. The box also contains prefinished cabane and interplane struts, a full set of insignia and marking decals, windshield, pre-painted fiberglass cowl and plastic headrest and rigging wires. The extensive hardware package includes everything required to setup the aileron, rudder and elevator pushrods and linkages, preformed main landing gear with rubber wheels, a steerable tail-wheel assembly, and pre-painted and -installed wooden fairings. hook and loop battery-strap material and all the other required hardware to complete the model. A detailed and illustrated instruction manual rounds out the box's contents.

Some of the special features include the 9-cylinder dummy

Designed by Gustave Delage and built by Nieuport, the N.28C-1 first flew on June 14, 1917, and entered service in March 1918. It was designed to replace its various Nieuport predecessors, but it, too, was already outdated before it entered service.

However, the American Expeditionary Forces (AEF) of the U.S. Army Air Service desperately needed fighters, and with the unavailability of new French SPAD S.XIII because of a lack of engines, the AEF accepted 297 Nieuport 28s into service until the SPADs arrived.

The Nieuport 28 was a highly maneuverable and easy-to-fly fighter, but had an unreliable Gnome 9-N rotary engine, and its performance against the Albatros D.III and later German fighters was lackluster. It also had a problem with its wings' covering ballooning and

engine and two scale Vickers .303 in. machine guns. Also, the motor mounting position is adjustable to fit most popular motors and the aileron linkages are fully concealed.

There is an optional detail upgrade package available separately, which includes a windshield frame, cockpit coaming, dummy fuel-system venturi, engine air-intake tube, wheel covers and a pre-painted 1/8 scale WWI pilot figure.

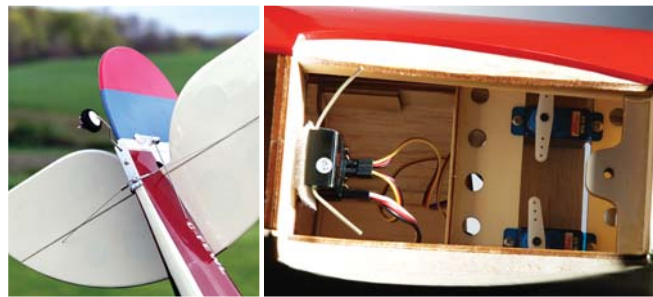
TIPS FOR SUCCESS

As this model involves some intricate assembly, it is best to have some building experience under your belt before attempting its construction. With that in mind, read and re-read the manual to familiarize yourself with the various assembly procedures. Next, sort through the hardware to ensure that everything you need is there and that you are familiar with all the various screws, bolts,

angled brackets, swivels, etc. After this, hook up your radio and power system to ensure that everything works and moves in the correct direction.

The horizontal stabilizer is attached first, but there wasn't any sort of visual alignment reference to ensure it was level and square to the fuselage.

So, I deviated a bit and attached the landing gear assembly, with the wheels included, and the bottom wing to the fuselage, which now provided some visual references and set the fuselage level. I then centered the stabilizer and marked where the covering needed to be removed. Once the epoxy dried, I removed the bottom wing.



Left: Although not true to scale, a nice tailwheel assembly is included in the ARF that is held in place with two wood screws. I used micro fasteners to connect all pushrods to their respective control horns. **Right:** The elevator and rudder servos mount inside the fuselage onto a laser-cut plywood rails.

From here on, the empennage instructions were straightforward; just keep in mind that the elevator needs to be attached before you add the vertical stabilizer. The CA hinges that Maxford provides for all control-surface mounting have pre-punched holes for the pins you use to keep the hinges straight, and even, when inserting and gluing them in place. This is a very handy feature and much appreciated by the builder.

When mounting the elevator and rudder servos, connect their respective arms to their pushrods and then place the arm on the servo. With this connection, allow each servo to find its "place" in between the servo rails and then attach them with the screws that come with the servos. I used Hitec's HS-55s, which fit perfectly between the rails. This method will prevent any binding of, and awkward linkage angles for, the servos and their pushrods inside the fuselage.

Again I deviated from the instructions and used Du-Bro Micro Connectors to attach the pushrods to the control surface horns. I was not fond of the method in the instructions, which gave you a 50/50 chance of getting it correct.

The last item for the empennage is the flying wire attachment. On its Nieuport 28 web page, Maxford put out an addendum that includes four items; the connection of this wire is the first. Apparently, they aren't using the spring or swivel any more to attach the non-looped end to the tailwheel bracket's forward screw. Check the web page for this and three other appended steps.

After attaching the ailerons to the lower wing, their servo is mounted to the provided hardwood blocks and then glued into place. Although it is not mentioned in the instructions, I removed the covering under where the blocks attached for better adhesion. Bob Smith's gap-filling CA was used for this. When it came time to connect the



On an overcast day with an air temperature of 40 and not a breath of wind to be found, my Nieuport took to the air. Using the Thunder Power battery described in the Specs, the Nieuport required almost full throttle to advance it through the grass and attain enough take-off speed to become airborne; total takeoff roll: 25 feet on grass. The motor box's built-in right thrust kept the right rudder input to a minimum.

As soon as the 28 rotated, I brought back the throttle to about 2/3 and let the model climb out. At 30 feet AGL, I added several beeps of down trim and brought the throttle back to just under 1/2. The airplane seemed happy here, but I could tell it was still a little tail heavy. I wound up adding another two ounces to quell the tail-heavy aspect.

True to WWI aircraft form, the rudder plays an extremely important role in the turning process. I wound up using a bit of rudder in the turns along with the standard aileron input. This combination seems to work the best for turning, whether it was left or right.

A few passes down the field for the photos, and then it was time to take the 28 aloft for some aerobatics. Using high rates, the Nieuport loops well, but it needs some forward speed to attain any kind of roll assimilation. Barrel was about the best one to be achieved. It spins nicely and the rotation stops when I let go of the sticks. Uncharacteristically of WWI biplanes, it flies well when inverted and didn't require any forward-stick input—something about all that added down trim. There's plenty of power and rudder authority for stall turns, wingovers, Cuban-8s, etc., but it isn't meant to be flown as a 3D, as there isn't *that* much power and the roll rate would have to be significantly increased.

The model has a fairly gentle power-off stall, and I didn't notice any wing drooping, and when the power is cut, it has a very flat glide angle.

To land, simple line up on the runway's centerline, cut the power and glide in for a smooth touchdown, employing a slight flare just before the wheels contact the grass. Nothing to it!

All-in-all, a fun model to fly, if you fly it in the way a WWI aircraft is supposed to fly.

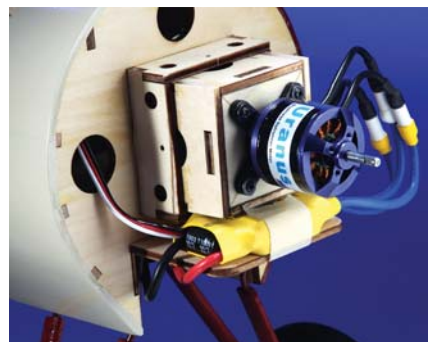
aileron pushrods, I again used the micro connectors. With a single servo driving both ailerons, the connectors gave me the ability to mechanically center these surfaces.

The four landing wires are now assembled; be sure to measure these so the correct 10³/₈-inch length is used for this step. The cabanes and the top wing's mounting hardware are added to the top wing's underside, and I would recommend not tightening everything. This will come later.

The remaining four 9¹/₂-inch flying wires are assembled and attached to the fuselage's sides—two under each cabane strut. There are four, small, predrilled holes that pinpoint exactly where the swivels for these wires attach.

As I already attached the landing gear and wheels, I just cut off the excess axle length and cut out and attached the wheel covers that come with the optional package. In the aforementioned addendum, for the wheels to fit on the axles, their hubs need to be drilled out with a 1/₈-inch or 3mm drill.

Next up is putting the top wing in place. This is supposed to be done with the cabanes attached, but I found it easier to press fit the cabanes—sans wing—into their respective slots (brown one goes on the left side and the fit here is very tight for both, so go easy) and then re-attach the top wing to the cabanes. The wires don't have to be removed for this procedure;



Using the typical X-shape mount, the Uranus 28309 motor bolts to the pre-built motor box, and this sub assembly is then glued into place with 5-minute epoxy.



The two machine guns mount on curved plastic piece that is glued to the top, middle of the cockpit. The forward edges of the molded blocks in the plastic part align with the leading edge of the aft cabane strut.



The fiberglass cowl comes pre-painted and the 9-cylinder dummy Gnome is pre-glued into place. Note the air intake and venturi on the starboard side.

only remove the bolts that hold the wing to the cabanes.

The motor is mounted on a separate box, and that box is then attached to the structure that comes out of the firewall. When looking at the box, note the two arrows that are "lasered" into the top. They point forward, and when correctly placed, note the right and down thrust of the smaller firewall where the motor's X-beam mount attaches.

Another addendum item is associated with the ESC's placement. It is now advised to mount it under the motor on the tray that juts out from the main firewall. This will help

with the model's balancing, plus it provides more cooling for the ESC.

Cut out the plastic machine-gun mount and attach it, and the two machine guns, to the fuselage. Note that the forward end of the gun mount's molded block lines up with the leading edge of the aft left cabane.

Ensure that all radio components are properly hooked up, attach the four angled L brackets to the bottom wing (do this now rather than when it is attached to the fuselage) and then mount it to the latter. Make sure the wing is perfectly perpendicular to the fuselage.

Now comes the fun part. Attach the four struts to their respective angled L brackets (the longer struts go on the forward brackets), but don't tighten the bolts all the way. Attach the eight flying wires to their coinciding springs and now tighten all strut and cabane bolts. With this, the biplane's rigging and decalage are essentially set.

The next thing I checked was the alignment of the wings when looking down at the model's top or planform. They weren't parallel, so I loosened the cabane and strut bolts slightly, positioned the top wing so it was parallel to the bottom one and then tightened the bolts again. Now, I had a biplane with the correct wing alignment.

From here, the cockpit coaming, headrest, windshield and pilot are added. I again used Bob Smith's gap-filling CA,

which dries instantly, so be sure to have the alignment perfect when placing these items. Before the cowl is attached, cut the battery's hook and loop straps and place them in their respective holes. To mate these pieces, it helps to use two ball drivers to reach through the open firewall holes and press the straps together.

Add the cowl, propeller, air intake tube, venturi and the decals and the assembly portion is finished. The next step is balancing the model, and the manual says that 3¹/₂-inches back from the top wing's leading edge is the spot. Using a heavier Thunder Power battery pack that weighed 6.2 ounces, I used 3 additional ounces of stick-on weights to achieve a level-looking balance. Another way to balance the model is to turn it upside down and place your fingers on the most forward portion of the bottom wing's leading edge. If the model hangs level, then it is good to go.

When I set the control throws, I added 25 percent expo on all high rates and 20 percent on the low ones. The aforementioned addendum includes inches of movement for all control surfaces.

CONCLUSION

Although a couple of items need to be thought of in a different way during the assembly process, overall, I found the Nieuport easy to put together. Read over that manual a few times before you dive into the building process, as it will help you to understand how things go together, especially where the wings' flying wires are concerned. Once it's properly balanced, it's a nice flying WWI model that Maxford replicated from the full-size version that belongs to The Great War Flying Museum in Brampton, Ontario. 🌐

Links

Bob Smith Industries, www.bsiadhesives.com, (805) 466-1717

Du-Bro, www.dubro.com, (800) 848-9411

EMAX Propellers, www.pulserc.com

Great Planes Model Distributors, www.greatplanes.com, (800) 682-8948

Hitec USA, www.hitecrcd.com, (858) 748-6948

Maxford USA, www.maxfordusa.com, (866) 706-8288

Spektrum, distributed by Horizon Hobby, www.spektrumrc.com, (800) 338-4639

For more information, please see our source guide on page 121.