



GWS (Grand Wing Servo-Tech, LTD.) is one of the pioneers of affordable Park Pilot type models and currently produces more than a hundred such aircraft. Their product line includes about every type of aircraft imaginable from the [Slow-Stick](#) trainer to C-130 4-engine transports.

Almost all the GWS airplanes are designed to fly in a small space and to be easy to fly, even the more complex airplanes like the BN-2 Islander.

The GWS BN-2 Islander is a small electric twin that fits well into the category of Park Pilot aircraft. It comes in two forms. One with twin ducted fan motor pods and one with twin electric motors driving propellers. This review covers the propeller version.

Both versions meet all the aircraft requirements of the Academy of Model Aeronautics' (AMA) Park Pilot Program. Both aircraft weigh less than 2 pounds (the Program's upper weight limit) and have a level top speed under 60 mph (the Program's upper speed limit). For complete Park Pilot aircraft details, [follow this link](#).

The AMA Park Pilot Program offers non-AMA members the opportunity to become AMA members at a much reduced cost. Park Pilot membership includes a great magazine "Park Pilot", \$500,000 personal liability insurance, \$2.5 million liability insurance for the flying field owner ([see insurance details](#)) and membership in the world's largest sport aviation association – the AMA. For complete information and details about Park Pilot membership, just [click here](#).

CONTENTS

The review model came with the GWS flight system that consisted of a transmitter, receiver, three servos, an 8.4v Ni-MH flight battery and a GWS field charger. The BN-2 ISLANDER is a full function foam RC airplane that has ailerons, elevator, throttle and rudder. The rudder servo also drives a steerable nose wheel. Steerable nose wheels are very unusual in this class airplane.



Photo 1 Photo 2

The box lid shows the two versions that can be purchased. The propeller version is presented as being easier to fly, or said another way, “the ducted fan requires a more experienced pilot”. Ducted fan powered aircraft usually require more careful throttle management and flight planning plus their power output levels are somewhat lower than an equivalent propeller driven airplane.

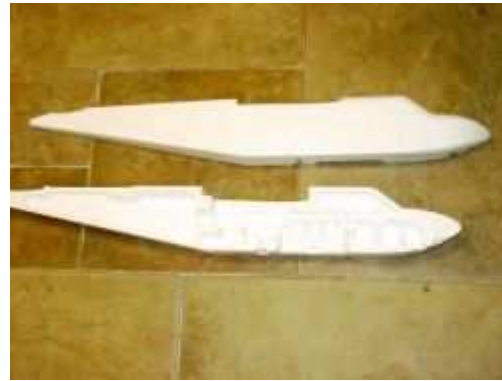


Photo 3 Photo 4

The primary parts are all made out of expanded foam that has been molded to create an airplane. The wing, stabilizer and fin are molded as one-piece items.



Photo 5

The fuselage comes in two separate halves. A closer look shows the internal shaping and cut-outs for the radio and battery systems.



Photo 6

There are two brushed motors, propellers and propeller adaptor cones. There is a Y-lead to provide a power feed to the two motors. Both motors run off the single power battery



Photo 7

Here is the supplied speed controller next to a penny to show its size. Remember, the lighter the better for small electric powered airplanes and small usually means lighter. When dealing with airplanes in this size range, *grams* count!



Photo 8

The GWS servos are just right for the job and fit easily into the pre-molded openings. They weigh around 9 grams each yet are powerful enough to control this fairly sprightly airplane



Photo 9 Photo 10

The GWS receiver is very small but will accept a variety of manufacturers' servo plugs. The particular GWS receiver used for this testing, the R-6NII was really designed more for indoor work or close-in outdoor flying. But the BN-2 Islander proved to be much faster and more maneuverable than we had originally thought. The BN-2 is just too good an outdoor flyer to be so restricted all the time. So we later substituted an outdoor receiver with the results shown in the video.



Photo 11

All of the clevises, horns and steering components are attached to a plastic "Christmas tree" for easy identification. Don't remove any of these parts until their turn in the construction process is reached.



Photo 12

GWS provided the glue and the rubber bands needed to complete the model. The GWS glue works well with the foam parts, but requires you to wait until it has cured. This can take quite

awhile (sometimes hours). The tube holds about fifty times what you will need and can be used on any other type of foam material. For faster assembly, especially on parts that must be held together until the adhesive sets, you may want to consider using foam-safe CAA and foam-safe Activator.



Photo 13

The engine nacelles are made of ABS plastic and are glued to the foam wing to provide support for the electric motors.

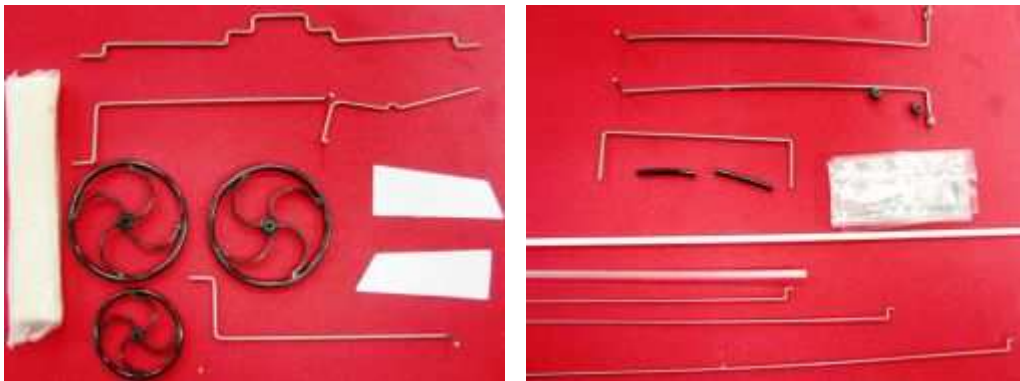


Photo 14 Photo 15

The lightweight wheels go with vertical legs under the engine nacelles. The ducted fan version used the cross wires for the main wheels. They are not needed in the propeller version.

Also shown are all of the pushrods, steerable nose gear and undercarriage leg fairings.

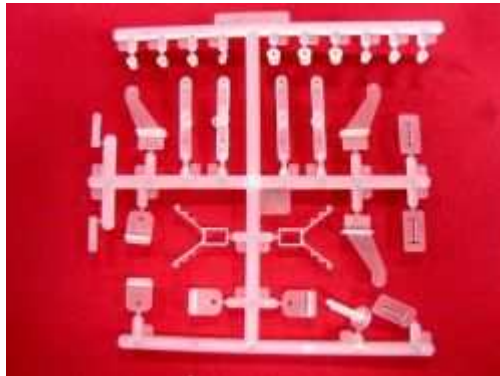


Photo 16

Another “Christmas tree” is provided with all of the components that you need to install the wheels and aileron pushrods.



Photo 17

To give the BN-2 ISLANDER the look of the full-size commercial passenger airplane, GWS provides a large sheet of self-adhesive decals. Some of the decals are used to provide wing or motor pod support and hinging.

CONSTRUCTION



Photo 18

The nose leg assembly has to be put into the fuselage before the two halves are joined together. You need to be careful not to get any glue on the moving parts. The steerable nose-wheel works well and is very effective when landing and taxiing the airplane.



Photo 19



Photo 20

The battery compartment can be added later or done at the same time as the nose wheel. Use plenty of glue as this part takes the full weight of the 2-cell 800 mAh Lithium Polymer battery pack. The slow-drying GWS glue is a good idea here to insure maximum bond strength. This part came loose once on me so make sure you install it correctly and with a strong adhesive.



Photo 21



Photo 22

Here the pushrod for the nose-wheel can be seen as well as the moldings in the foam to take the servos. The black plastic part is the front wing retainer block,



Photo 23



Photo 24

The one-piece wing has grooves molded into it that will accept the torque rods for the ailerons.



Photo 25

One servo drives both ailerons using the torque rods. The black plastic “bearings” keep the torque rods from flexing. Do not get any adhesive on the bare torque rods or near the bearing ends. Do not allow the adhesive to “wick” inside the bearings or the ailerons will not move well and may not center at all.



Photo 26



Photo 27

The wire for the main undercarriage legs clip into plastic blocks that are glued into the foam wing. *(Ed Note: We call them "landing gear legs" on this side of the Atlantic, Eric. You can take the boy out of the UK but can you ever take the UK out of the boy?)*



Photo 28



Photo 29

The plastic blocks were held in place with blue masking tape until the glue cured. Wait about an hour before putting any load on the legs. The aileron torque rod slots were filled in with scrap foam pieces. Be careful not to get adhesive on the moving torque rods.



Photo 30

At this stage, the engine-pod bases/nacelles and undercarriage leg fairings are glued in place. The fairings do a good job of hiding the undercarriage block mounts.



Photo 31

The aileron servo is installed in the center recess and the pushrods connected to give roll control.



Photo 32 Photo 33

The motors are held in the pods with two screws each. The pods are then glued in place by lining them up with fairings previously glued under the wing. A little bit of guesswork was applied during this stage.



Photo 34

The plastic lined up well with the wing section leading edge. The motor center/thrust lines were in essence dictated by the pod molding.



Photo 35



Photo 36

The pods are shown from above and below. The system worked. Not once during rough landings, takeoffs, hand launches and general rough handling did the pods ever come loose.

The foam tail surfaces have mounting tabs molded into them and are very easy to install. Use the GWS adhesive or some 5-minute epoxy for this installation. The servos mount into the molded areas in the fuselage and use standard control rods to reach the rear surfaces.



Photo 37



Photo 38

The BN-2 before the application of the decals looks a little bit plain.

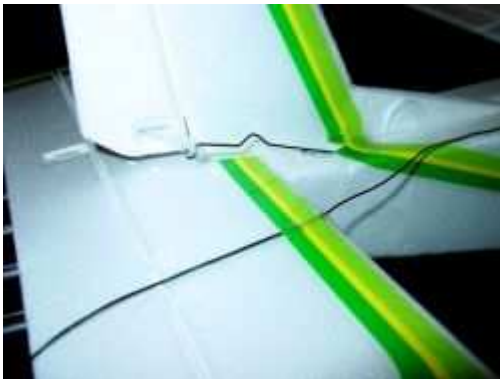


Photo 39



Photo 40

The stripe decals are hard to position and apply without twisting. However, if you keep the backing on and only peel off what you need, a few inches at a time, they will work. The decals are worth the work because they really do enhance the look of the airplane.



Photo 41

Applying the decals is probably the trickiest part of the build but they add to the realism of this small twin. Once the cabin decals have been applied it is time to take a bunch of photographs before test flying the BN-2.

GETTING READY TO FLY



Photo 42



Photo 43

The finished product ready to be flight tested outdoors if the NJ weather will cooperate. An almost all white airplane should be flown with good light to avoid having orientation issues. The decals help the pilot to keep sight of the airplane but the bottom side is all-white which can cause some vision problems on cloudy days. However, the BN-2's small size keeps it close to the pilot minimizing this problem.



Photo 44

There is a lot of detail for such a small airplane. The molded foam faithfully duplicates the full-size airliner's compound curves making this model very realistic and attractive. If the

airplane flies as good as it looks, this should be a fun airplane.

FLYING AT THE PARK
(Industrial Park that is)



Photo 45

The local “park” did not actually let you park close, but the Islander flew way above the “No Parking” signs. The takeoff, even from grass was very quick. The BN-2 is a bit over-powered and having two propellers doubles the thrust effects.



Photo 46

Somehow, the GWS Islander looks bigger than it is in the air. The twin motors make for a very strong sound without being loud.



Photo 47

Even in a breeze, the airplane is stable and gives the pilot confidence to do low passes. Cruising around the sky while doing loops and rolls proved the BN-2's excellent performance. Maneuvers are not easy to capture on a still-camera, but the images give you a good idea how easy it is to see this airplane. Check the video section of this review

for some in-flight performance.



Photo 48

All good things must come to an end. Just perform one last circuit before the battery completely runs out and then set up for landing.



Photo 49



Photo 50

Of course the wind had to increase just as you decide to land. A quick turn for the shelter of the buildings got away from the turbulence and allowed a safe first landing. Smiles were all around.

FLIGHT SUMMARY

This airplane is a blast to fly. It leaves the ground quickly when on a smooth surface and will take off from short grass. The airplane is easy to hand launch from either above or below the shoulder. Be careful of the twin propellers. It is easy to forget that the two propellers are not on the very front and are situated very close to the center of gravity; which is your natural gripping point for hand launches

The review model was often launched from a "table top" without any problems. There was no need to hold onto the tail before release. Just hit the power and you are flying.

Notably, the GWS BN-2 ISLANDER will perform inverted flight with ease. The airplane rolls very crisply or as slowly as desired. The Islander has a strong rudder. You can even get an almost-knife-edge out of it at full speed.

The airplane can be flown slowly but it is no where near as happy as it is when the motors are on full song. Flight times were around ten minutes with an 800 mAh 2-cell LIPO. The airplane glides quickly without power and can be "brought back" to the landing area most times when the battery is done.

The indoor/outdoor GWS R-6NII receiver just doesn't have the range to allow the Islander to realize its full performance capability. We found this out after the airplane sustained some damage during a hard, off-field landing. Fortunately, this is one very strong airframe

so what damage occurred was easily repaired.

For long distance outdoor work, I suggest switching to a standard receiver. I used a JR FM radio and receiver at the field. Later, the airplane also flew with a Spektrum 6100 Park Flyer receiver. The 2.4 GHz system obviates the need to get a frequency pin at the club and also ensures that you won't interfere with another RC airplane when you are flying in a park. For more information on what 2.4 GHz is all about, read the Sport Aviator 2.4 GHz articles in the Flight-Tech Section.

The Electronic Speed Controller (ESC) was designed for a single motor airplane and only rated at 7 Amps. But I tried it anyway. The best choice turned out to be a 10-Amp ESC

The supplied 8 cell Nickel Metal Hydride (Ni-MH) battery pack had flight times of 60 seconds or less. The Islander's excellent performance deserved better. A small, 2-cell Lithium-Polymer battery worked well with the E-Flight 10-AMP ESC. Flight times moved into the 5-7 minute range which is about normal for small twin Park Pilot airplanes.

What I liked most is that you can beat-up this airplane quite badly and it will still fly. Clear packing tape is a cure for almost all of the crunches that you can deliver. ZAP-O foam safe CAA was also a life-saver several times.

This is a super foam-electric twin-that will give you a lot of great flying. While its aerobatic performance is great, this is still an easy airplane to fly and land. It is definitely not a first-time trainer, but it does make for a great first twin airplane without having to worry about an "engine out" situation.

This airplane will fly in tight park spaces or as big an area as you can find. There are no problems as a Park Flyer. I don't think this airplane should be flown indoors except by very experienced pilots in large, military-style hangars. It is not really designed for indoors and is capable of handling winds in the 7-10 mph range.

This aircraft is an attention grabber on the ground and in the air. For more information on this twin small field airplane, go to: <http://www.gws.com.tw/english/product/airfly021.htm>

→

Notable Positives

Light and tough
Wheels worked well on short grass
Takes off in short distances
Flew well - very aerobatic

Notable Negatives

Battery retainer design came loose several times
Self-adhesive decals difficult to apply