HM Review

Dennis McFarlane

Blade 350QX

An aerial platform that can fill a variety of roles.

Unquestionably, especially if they are beginners with no or at the most very little experience, when the vast majority of customers walk into a hobby store looking for a aerial platform they are going to be attracted to the smaller mid-class designs. These are fun machines, which are available at an affordable price point that provide an immensely valuable service in introducing new hobbyists to radio control—they teach a person how to fly.

That said, there are also a number of customers who have done a bit of research and are looking beyond the basic platform. These customers fill a broad range

The 350QX includes a 3S 11.1Volt 2200mAh lithium battery that fits securely in a molded tray.

from the raw beginner, who's willing to pay a little extra for a better product, to the experienced modeler looking to take the next step. Added to the list is a group of purchasers most store owners have not had to deal with in the past. These are, and not to be insulting, but for lack of a better term, the technology geeks.

These guys range from the amateur photographer looking to expand his hobby, perhaps the action photographer who's looking for a different application for his cameras, or what is entirely new to the hobby dealer, the individual who wants to experiment with FPV (First Person View) and he's come into your store looking for an aerial platform to support his experiments.

The Blade 350QX is the product that fits all of these requirements. Available either as a Ready to Fly or Bind-N-Fly, the 350QX is packaged in a molded foam tray contained within the box. Included with the 350QX is quad itself, a 3S 2200mAh lithium battery and battery charger, an extra set of blades and a quick start guide. Also included is a lightweight mount for the ever popular GoPro Hero3 action camera. Like all Blade products, the difference between the RTF and BNF is the transmitter, in this case the Ready to Fly 350QX includes a full-size (new version) DX5i transmitter.

The review product is the BNF and requires a customer supplied transmitter. On hand was a DX5i, with the needed three position switch, from the previously reviewed Apprentice (Oct. 2013 HM). Based on the information in the quick start guide, nothing but binding is needed to put a DX5i transmitter into service.

As with all products using electric propulsion, the manual was read while the battery was charging. Unfortunately, this is where things began to unwind. Perhaps it's the way the guide is written, but I quickly became lost as to what was expected. The quick start guide is confusing as to what is required to bind the transmitter and receiver. Trying to unravel the confusion the complete instruction manual was downloaded from the Blade 350QX website and printed.

The rotors are mounted directly to the motor, eliminating the need for any type of prop adaptor.

Dealers need to step up to the plate with this one. The basic binding instructions are included, but there's a set of bold and highlighted binding instructions for component replacement and these are the instructions the end user's eyes are drawn to. As an example, should the quad be damaged and the GPS sensor need replacement, the guide explains how to bring the new component into service by using transmitter stick position while completing a rebind.

I've helped a number of confused customers myself, and read many more calls for help on the various Blade chat sites. When the product is sold, dealers need to explain to the customer to simply perform a standard bind procedure. It's not at all hard, but if he's a new customer, you may have to walk him through the binding steps so he can begin flying his quad.

Caught on lift-off, the blue LED directly under the red hatch cover indicates the 350QX is locked in the Stability Mode.

The confusion brought on is a shame, because binding a Blade is extremely simple. I really feel badly when I tell a customer to ignore the quick start guide when first putting the Blade into service. That said, without a doubt the complete instruction manual should be downloaded and printed by every purchaser. Not only does it offer more detailed information than the quick start guide, it provides a list of flashing LED codes that every owner needs to learn. These codes provide the end user with a wealth of needed information.

The chassis of the Blade 350QX is equipped with a variety of accelerometers and other stability devices. Also mounted are a GPS (position), compass (direction), and barometric pressure (altitude) sensors. Combined together or in-part, the devices offer three modes of flight.

Smart: This mode combines the GPS with barometric (air) pressure and the compass. Once GPS lock is established (learn the flashing codes) the 350QX can be flown to any location and it will stay there. No longer is the pilot dependent upon the direction the quad is facing, the direction the transmitter stick is moved is the direction the quad will fly, regardless of its orientation. If the pilot gets confused, or simply lazy, he can activate the return home function and the quad will land in the same location it took off from. That's the basics; there are two pages of the instruction manual designated to operating the 350QX in the Smart Mode.

Stability: This is the mode most experienced quad pilots will fly from, especially when using a camera. In this mode the platform will remain level at all times, but the pilot has complete control over the rate of ascent, descent, the direction he wants the quad to face during the flight and the place where he wants the quad to land.

Agility: Aerobatics are completely possible. The GPS is disabled, (if I understand the manual correctly) so it has no affect on flight performance. It is possible to switch from the Agility Mode to the Stability Mode. If the GPS is not functioning properly the pilot will not be able to switch from the Agility Mode to the Smart Mode (learn the flashing codes).

Depending upon the flight mode last activated, if there is a loss of transmitter signal the 350QX will either return home on its own, provided there's enough onboard battery power, or initiate a controlled descent.

If this information seems a bit overwhelming at first, consider the complete instruction manual is 20 pages long and each time it is read more information that needs to be absorbed pops to light. Technically speaking, the Blade 350QX is a marvel of advanced engineering.

My first flights on the 350QX were a bit out of the ordinary. I have had numerous flights on helicopters and quad rotor aerial platforms, but because weather was not on my side, I had not yet flown the 350QX. This changed when my wife called from her store. Cindy had a rather excited tone to her voice. *CBS News Chicago* was wanting to do a follow-up story to an Amazon piece that had run on *60 Minutes* the night before. "Will you fly your quad for the news team?"

With LEDs attached to each of the arms, blue for the back, red indicating the front, flight orientation is easily managed.

The initial plans were for one of Cindy's employees to fly while I narrated, but that wasn't what CBS wanted. They wanted me to demonstrate and talk all at the same time. Placing the 350QX in Smart Mode I kidded with the camera man about needing a haircut—don't ever be intimidated by the media—not only are these guys a lot of fun to work with, but they can be an invaluable friend if somebody demented tries something foolish with a radio controlled hobby product. After

Smart Mode lock was established (once again learn the flashing codes) power was applied and the 350QX lifted gently to altitude.

Two battery packs later *CBS News Chicago* had accumulated all the raw video footage and commentary needed for an evening broadcast of the short follow up to the original *60 Minutes* feature.

The Blade 350QX has proven to be a very stable and completely reliable platform for aerial photography.

In its basic role as an aerial platform the Blade 350QX is an incredible machine that's a dream to fly. Personally, I find the Smart Mode a little confusing at times. I've messed around with pointing the platform east and using the sticks to fly the quad south, but this goes against years of experience. Of course nothing says just because it can be done means it has to be done. Regardless of the mode the pilot is in, flying the quad normally and landing the machine without the "return home" feature is always possible. I think it's more fun to demonstrate "return home" than actually use it.

If there's any reason a dealer is not carrying the 350QX you are really missing the boat on a much desired multi-rotor and you need to get a couple of these on the shelf and put the word out to your demographic you have them in stock.

Like all Blade products the 350QX is available from Horizon Hobby. **HM**

Using the Blade 350QX as an aerial camera platform

Many, if not most, of the 350QXs sold will be used as a platform for taking aerial photos. The Blade even comes with a basic vibration dampened camera mount designed specifically around the very popular GoPro Hero3 camera. In its basic form, installation is extremely simple: screw the mount to the 350QX body and attach the GoPro camera.

Putting the unit into service is a whole different story. GoPro's emit a lot of EMI (Electro Magnetic Interference) and this causes the GPS to falter and the unit will fall out of the Smart Mode. (**Don't even consider using real-time WiFi, the receiver will lose bind**) The problem is that with a camera mounted—especially with the extended landing gear legs and the more durable crystal case—the 350QX is extremely nose heavy.

I've read the story more times than should be necessary before people begin to learn. "I took off in Smart Mode. Once I had the unit in position I used the remote to activate the camera. Seconds later the green LED began to flash, and the quad flew away."

Because it's nose heavy and out of trim, the unit accelerates forward like is was shot out of a cannon. With the barometric pressure sensor still functioning, altitude is retained until battery power is lost and the unit descends, usually about a half mile away.

Unfortunately the end user often has no idea of how to fly a quad and hasn't taken the time to learn. In some cases he isn't even interested in learning how to fly a radio control quad, he just wants to take aerial photos, so he has absolutely no idea what to do when this happens.

There have been a number of fixes posted on the various chat groups, I suppose all meeting with some degree of success. The real fix is to tell your customer there is a compatibility issue between a GoPro's EMI and the GPS sensor used on the 350QX, so **learn how to fly**. I've had many flights in Stability Mode with the camera activated and have never experienced so much as a glitch.

A number of attachments are popping up all of the time. One extremely popular attachment replaces the Blade's included camera mount with a fully articulated arm. Another popular option is a number of FPV devices designed with the 350QX platform in mind.

Obviously these devices add weight and that requires power. With the camera packaged in the crystal case the 350QX gets about ten minutes on a battery charge. With an articulated arm mounted the flight time is reduced to roughly eight minutes. Reports from the FPV crowd indicated six minutes is about average with them.

Most dealers don't sell the cameras, articulated arms, or FVP devices, but do sell the platform. Aerial photography is proving to be a lot of fun. Dealers simply need to take a few minutes to explain how everything works together as a unit so the customer has a complete understanding of what he is getting into. **HM**