Essential Basics for Flying the Bebop Drone

Dedicated to the Newbie: This piece is written for those who are new to flying drones, or are having difficulty evaluating which one to purchase. I recently went through the process of trying to understand the capabilities and limitations of the Bebop drone — and found the online resources of limited help. The reviews were quite contradictory; some persons obviously had a very negative experience; while others were delighted with the product. I concluded that if I purchased a Bebop drone the least I could do would be to offer up a short article containing the information I wish I could have found in clear, easily understood terms. Let me be clear — I'm still a novice, and have much yet to learn. But I had to know certain basics to even get started. So this article is specifically directed to persons who are as completely inexperienced as I was when I acquired the Bebop drone. I hope it will offer a new and easier insight into this fun product.

My bottom line is this is a fun, well-designed, product that can be very easy to fly even for those that have never ventured into the world of drones or RC aircraft. Perhaps the greatest drawback is the instructions that come with the product fall way short of what's needed. And while there are further instructions in an online manual, and various YouTube videos that collectively may provide most if not all the pieces to the puzzle, it's very difficult for a novice to wade through all of the "stuff" that's out there — and particularly troubling given it's peppered with comments from people that have negative comment. My conclusion is that perhaps these folks may not have understood one or more of the key concepts needed to make all this relatively easy, do-able, and fun

My purpose here is not to offer expert advice on any of this. I'm a rank novice. But I have found some useful essential tips that I wish I could have found in one place when I opened the box. Let me list these in a somewhat logical sequence. Much of this I learned mostly by trial and error. But with hindsight, I'm hoping it might offer others some of the key tips I was looking for:

1. It was easy enough to plug the battery into the charger, and as advertised in an hour the light had gone from red to green, apparently indicating a full charge. The next step was not quite as easy, as it involved plugging the battery into the cable that's firmly tucked inside the cavity where the battery is obviously intended to be fitted. But first you have to get the connecting cable out of the hole it's stuffed into. There is a very thin piece of string (or thick piece of thread?) that you'll need to pull on to get it out so that you can make the connection. And pulling it out required me to pull quite hard to get it out for the first time. Like most new users, I was concerned that thin loop of string/thread might break. But happily it did not, even though I had to give it a very aggressive tug.
2. It's easy to see where the cable attaches to the battery. You just connect the two pieces until it "snaps" together. It may or may not make an audible snap, but it will firmly keep the drone's cable attached to the battery. But before you then slide the battery into it's rightful position, take careful note of how you will disconnect the battery once you've run the power down. It disconnects by pressing down on the back end of the cable connection. You'll need to pull the cable out far enough to see/access it when disconnecting.
3. Starting the drone is easy enough — just press the button on the back end. It will make some odd noises, but presumably it's doing its startup thing.
4. Now the first critical step: Get connected wirelessly. The Bebop is now sending out a wireless signal just like the router in your home or office. You should see it on your list of available networks. On iPhone/iPad you simply tap on "settings", then "WiFi". Select the drone's wireless signal, and it should connect.
5. If for some reason you don't "see" or "connect" to the drone's WiFi signal, try turning the drone off, and then back on again.
6. Once you see you're connected to the correct signal, open the App called "FreeFlight 3", which you'll have already downloaded onto your phone or tablet. If you're not really

connected the you'll see/hear part of the screen doing a much-too-fast video about "getting started".

7. If you are indeed connected however, your screen will look like this. Note especially the icon (three short lines) in the top of
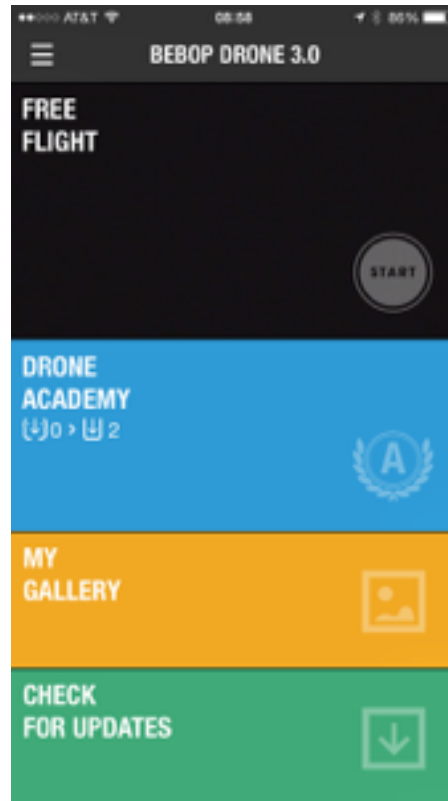
the screen. That's the key to a very important menu you can use later. If for whatever reason you're not yet connected to the Drone via its wireless signal, you'll still have access to that menu icon The second line on that screen will have your drone's identity on it. If you're not initially connected, or (importantly) if you find you're disconnected during a flight, you can click on that menu icon and tap on the drone's identify to reconnect. I've found it works quite well — and it's an important feature to know about.

8. The next step will be to tap on the "Free Flight" space on the App. Your screen will immediately change, orient itself horizontally, and look like the screenshot immediately following. Here's where the fun begins….

9. Just a quick explanation: The left circle and the right circle
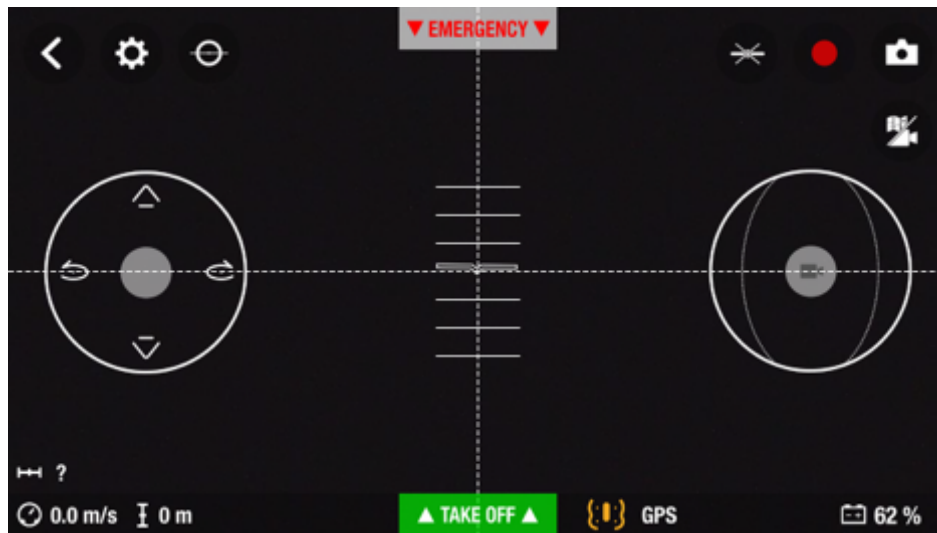
   are the two controls. The one on the left controls "up" and
   "down", plus rotate right and rotate left. The symbols are self
   explanatory. The one on the right lets you control forward,
   backward, and sideways motion. If you put your finger on
   that control AND at the same time tilt the phone/tablet down
   in front, the drone moves forward. Tilt it back, and the drone
   moves backward. Tilt down to the right, it goes right; and tilt
   down to the left makes it move left.
10. Hitting the green tab on the bottom ("take off") does exactly
    that: But you'll have to wait just a bit longer, because we're
    not quite ready to do that…
11. The "gear" symbol at the top (almost) left side of the screen,
    and the settings that take you to, need to be dealt with first.
    When you tap on that, the screen changes completely, taking
    you to a series of "setting" pages that you access by swiping
    between them to access several different settings.
12. I'll confess I've not mastered all of them yet — but I do think
    I've identified the ones that are crucial. Scrolling through the
    pages you'll find that you have a number of choices to make
    or parameters to set. Ironically these settings seem to work
    ONLY for the next flight, and need to be looked at each time
    you take to the air.

13. Without trying to be exhaustive here, note that you're able to control how high the drone is allowed to fly (when it gets there it won't go higher); how rapidly the drone will rotate (either left or right) - I find a comparatively slow speed helpful for beginners; the "angle of inclination", which determines how fast the drone will travel front/back/sideways — again beginners should consider a fairly low value on this one at first; a setting that allow you to choose between 5 and 2.4 GHz (I've found MUCH better control using the 2.4 setting); a pilot mode that includes "normal" and "ace" (beginners will always want "normal" — but you'd better check before each takeoff to see if that's checked; and finally "Calibrate", which is actually on one of the earlier screens.

14. I left "calibrate" for last, because it's usually the last thing I do before takeoff. When you press the button it gives you a graphic explaining it wants you to rotate the drone on all three of its axis. This is quick and easy. You'll only have to make one or two full rotations of each before a little checkmark appears indicating that axis is now calibrated and happy. (Note: I've found sometimes hitting the "calibrate" button does not bring up an active "calibrate" button — my assumption is that's because it does not need calibration at that point.) At that point you'll hear the drone's fan come on again — and it's ready for takeoff.

15. But not quite: You've forgotten (or at least I do) to take the sense cap off the nose of the drone. That does not optimize the photographic capabilities!

16. Okay — you're ready for takeoff: Tap the green take off space and the drone rises about 3 feet and just sits there. This is important: It just sits there. You're in "Normal" mode and it will do nothing until you tell it to. Start by pressing up on the left control circle. Up it goes. Take your finger off — and there it stays. It will drift ever so slightly, but essentially keep itself in place.

17. Probably next to try is "rotate". Press that same control to the right, and it will rotate to the right — if you've set the parameters to do so relatively slowly, you'll see why this helps especially at first. Again — when you take your finger off the

control, it stops rotating exactly at that point an will continue to face in that direction. Same thing to rotate left. And down on that control to bring the drone lower.

18. Now on to the right control. Place your finger in the center of the control circle and tip the drown forward (slightly down in front). The drone moves forward. Take your finger off the control, and it immediately stops — and stays right there until you tell it to do something else.

19. By now you likely have a general sense on moving it around. Time to notice the red circle on the top right, which turns the video off and on. And the camera icon to its right. Tap the camera at any time (even with the video going) and it takes a still picture. But major hint here: Don't just turn the video on and leave it on. It's taking HD video, and even 20-30 seconds is a pretty big file. Later when you download it you'll be glad you have multiple files but comparatively short video pieces — probably most of which you'll delete anyway. Just how much video you'll want to take you'll figure out over time.

20. When it's time to land, navigate to a nice flat spot and use the "down" arrow on the left control to lower the drone near the intended landing spot. When it's reasonably close, you can just tap on the "landing" button, which is where the "take off" space was before you started. It will reduce altitude gradually and shut off when it touches down. All this makes you look really proficient!

21. You will likely find you may lose the connection while the drone is airborne. Not to panic — if you're in Normal mode as recommended, it won't go anywhere. As a matter of fact it appears that if you stay disconnected for two minutes it returns to where it took off and lands.

22. If you find you're "disconnected" while flying you can usually reconnect easily. Go back to that menu icon in the top left of the screen and tap. The very first item will show your drone. Tap on it, and you'll find it will likely reconnect. I've found on occasion that didn't work, and I had to go back to the iPhone settings to set the wireless connection to "Bebob Drone" again — but (i) if you stay reasonably "in range", and (ii) you just use the menu icon as described above, you'll easily reconnect.

And if it takes a minute to reconnect, not to worry the drone will stay in place waiting for you…

23. When you get down to about 20% battery (as shown in the bottom right of the screen while the drone is in flight) it's time to bring it back and maneuver to an easy landing with a bit of time still on the clock.

24. After landing, turn the drone off by pushing on the same button you used to start it. Take the battery out as described, and pop it in the charger for an hour and that one's ready to go again.

25. But before taking the battery out, you likely have more than enough power left to reconnect your phone/tablet indoors just for the purpose of downloading the videos and pix. Again, with the power on and the drone connected via the drone's WiFi network, go to that very essential menu item and scan down to the item "internal memory". On your screen you'll then see the list of available videos and pix. Check the ones you want to download and follow the instructions. It's probably a good idea to "delete" them after you've downloaded them, as they'd quickly use up memory on the drone. If you didn't want to download certain ones, you'll get a chance to "delete" them too. Do that…

So — there's the sort of information I wish I could have accessed when I first opened the box. And as you'll quickly find, there are many, many more features not described here. But my purpose is really just to get you (and me) started. I figure we'll be able to pick up the finer points was we gain more experience. You'll find a ton of materials on the Bebop drone, and various pieces of "how to do it". Most are far more specific and detailed than I've tried to provide here. But none tells the basic "whole story" for the novice. And indeed there is much more that I've not learned than I have learned at this point. But I wanted something to help me get started — and I'd hope this might help others as well.