YGE 120/160HV Ver. 4.23 setup with VBar Ver 5.2.x Governor
This is for setup with Full Size VBar and Spectrum satellites

1. **Transmitter Setup**
    a. Your Normal Throttle Curve should be 0 to 100
    b. Throttle Trim at Mid Point ,or Low Point, or disabled, does not matter as long as you keep it in the same place.
2. **VBar Initial Setup**: It is important to setup the VBar before doing any ESC Programming; it is possible to use another method as this one is long.
    a. Power on VBar only, 4 Cell NiMh pack is going to be needed, It's good to have a NiMh pack with a switch plugged into open servo socket on VBar.
    b. In VBar Throttle Endpoints at -100 and +100 in Setup/Transmitter, Adjust with Transmitter Endpoints as necessary to get -100 and +100 in VBar>Setup>Transmitter .
3. **Initial ESC Test**
    a. Motor connected to ESC, **Remove Pinion on Motor, Remove blades**
    b. **Power on Tx, Throttle Low Position**
    c. **Power on VBar** only, 4 Cell NiMh pack is going to be needed, It's good to have a NiMh pack with a switch plugged into open servo socket on VBar. Make sure no BEC is connected to VBar, remove power wire.
    d. **Connect LiPo to ESC**
        i. You should hear 3 descending tones
    e. **This will Power up Motor!**
        i. **Move Throttle to Middle Position**, Motor should turn in correct direction, if not switch any 2 wires from ESC to Motor.
    f. **Unplug Lipo from ESC, Power off VBar**

4. **ESC Setup – Program Card II**
    a. **Wiring**
        i. Program Card Left Port (ESC) to ESC Program Cable(short 4" one). (Be sure orange wire is on left of Prog. Card)
        ii. ESC Throttle Rx Cable(Long one) is disconnected
        iii. Program Card Right Port(RX) to VBar Throttle Port.
        iv. 4 Cell Ni MH Pack to VBar for Power. **(NO More than 4.8V, Greater than 6V will burn up Program Card)**
    b. **Programming**
        i. **This controller offers the possibility of soft start-up then with a short response time. (Heli Middle + Plane Fast is what I ended up with after myself and Joe1L figured out Motor Full was the key to getting this mode to work)**
        ii. Power on Tx, then VBar(Wait for Swash Bump), then Lipo to ESC
        iii. Press Enter Button on the ProgCard (Controller Settings are read, and are now on Page 1 of the Program Card)
        iv. We will skip timing and brake
        v. Select Cut off type = slow down and press Enter
        vi. Select Cut off Voltage =3.1V and press Enter
        vii. Select Cells=12 and press Enter

viii. When calibrating ESC Endpoints with VBar you want the Gov enabled and press the button in Gov II labeled Collective Control. Note the Long TX Cable from the ESC is disconnected, but be careful as motor can spool up if not done properly.

ix. Tx Stick at 0 Throttle, select Special Functions Stop press Enter

x. TX Stick at 100% Throttle select Special Functions Full press Enter

xi. On Program Card Press Left 2 buttons simultaneously and hold for 4 sec. (This switches to Page 2 of the Program Card, now left LED blinks for page 2)

xii. Set **Startup Speed to Heli Middle** and confirm with **Enter**

xiii. Select Act Freew/Gov Mode and **select Gov off and press Enter Three times**.

xiv. Set Startup Speed to **Plane Fast** and confirm with **Enter**.

xv. (For the controller here is another confirmation.)

xvi. Verify Settings are correct for Page 2 by simply scrolling thorough
1. Gov off, Startup Speed=Plane Fast, Freewheel=ON, Startup Power=Auto

xvii. Set other OPTIONAL settings per your motor/preferences
1. Timing = 12 deg(Xera 4530), Auto(Xera 4035)
2. PMW = 10KHz(Xera 4530) , 9KHz(Xera 4035)

xviii. Calibrate VBar Governor
1. Calibrate Motor Stop
   a. Turn on Collective Control
   b. Raise Motor On Slider until motor turns on – Note Value
   c. Now put that value -12 in Motor Off
   d. Now Turn off Collective Control
   e. Turn on Throttle Hold
   f. Raise Throttle to Mid Stick
   g. Turn off Throttle hold
   h. If there is a 2 second delay the Motor Stop Value is too low (-107 as an example).
   i. Start increasing Motor Stop by -1 until there is no delay when switching out of throttle hold.(I ended up with -94)
2. Calibrate Motor Full
   a. Turn on Collective Control
   b. Go to full throttle on TX(Spool Up)
   c. Increase Motor Full until light goes off on YGE indicating Full Throttle(VERY Important). I ended up with 108.
3. Other
   a. Watch Mr Mels Videos on how to setup VBar gov as it gives you additional insight. This info is specific to YGE with VBar Support. Also WickednRaw's Videos on use of the YGE Program Card

5. **ESC Phase Sensor Output Wiring**:
    a. Vbar JST Female Connector
        i. Just Brown wire(Ground) and Signal(Orange), Red(Power) not needed
    b. ESC JST Male Connector
        i. Brown Wire to Brown Wire on Vbar(Ground<>Ground)
        ii. Orange Wire to Brown Wire(Signal<>Ground)
        iii. Red Wire to Orange on VBar(Phase Output <> Signal)
6.

Vbar Adapter

to Vbar
Speed sense
input

to YGE controller
programming wire