Power Vision Pre-Tune Setup

1. Set up Install wideband O2 sensors
    1.1.   If the bike is equipped with wideband bungs, and you can access them, use them.
    1.2.   If you cant use the bungs in the pipes use Riv-Nuts.
        1.2.1.   Dynojets current Stealth Extractor (Riv-Nut) kit tips.
        1.2.1.1.   Drill hole as far up the pipe as possible closer to the exhaust port is better
            1.2.1.1.1. Avoid double radius, and heat shield clamp placement
            1.2.1.1.2. Make sure the flat washer is between the pip/riv-nit and threaded fitting to prevent to much flex on the thin walled hollow stud.
            1.2.1.1.3. Using the Jam nut against the red block to lock it in position make sure that block side bung is clocked at about the 2 o'clock position.
2. Use the proper current Power Vision firmware. Current firmware is accessible by PV Update Client or going directly to Dynojet website.
    2.1.   2020 and older
    2.2.   2021 and newer
3. Connect cables
    3.1.   Bike to Battery Tender.
    3.2.   Auto tune module To Power Vision. Ensure all connections to the Auto tune module are secure.
    3.3.   To front WB senser (1)
    3.4.   To rear WB sensor (2)
    3.5.   To RT box
    3.6.   Connect to power autotune module from the Power Vision after Autotune is set up
4. Power Vision
    4.1.   To computer via USB
    4.2.   To Motorcycle via the correct communication cable for the bike.
5. Create a windows folder to store the customers files in
    5.1.   i.e. Desktop/Map/year/model/customer
6. Open the "Get License" window in WinPV
    6.1.   Click "Get STK file from ECM"
        6.1.1.   Click "save STK" and save it to the folder you created for the customer.
    6.2.   If getting a new tune License click "get license"
    6.3.   If using a tune license from a file or USB drive click "load license"
        6.3.1.   Send to Power Vision
        6.3.2.   Save to customer's file

7. Open the STK file in WinPV

8. Save it as the original tune From ECM in the customers folder

9. Mouse over "File" click "Load all values" from the menu under file:

> 9.1.   Open the PVV folder and select the tune that matches the stock sensors that came with the bike when it was new.
>
>> 9.1.1.   Mini o2 for bikes that came from the factory with mini O2 sensors
>>
>> 9.1.2.   Big o2 for bikes that came from the factory with BHBig O2 sensors
>>
>> 9.1.3.   No o2 for bikes that came from the factory with no O2 sensors

10.   Is the cam stock? ***Note: In most cases when the bike has a performance cam it is better to use the cal from the bike and import the air tables from a closer calibration***.

11.   the cam is stock?

> 11.1.   Yes
>
>> 11.1.1.   Proceed to step 12
>
> 11.2.   No the cam is Screamin Eagle or other aftermarket cam?
>
>> 11.2.1.   Check the boxes next to the following 8 air tables listed below under 10.3 and then click "Load selected files"
>
> 11.3.   Use the following 7 air tables from a cal/map for a similar engine size, cam, and pipe.
>
>> 11.3.1.   Both Charge Dilution Effect
>>
>> 11.3.2.   Engine Displacement
>>
>> 11.3.3.   MAP Load Normalization
>>
>> 11.3.4.   MAP Tooth IVC and IVO
>>
>> 11.3.5.   VE Front and Rear

12.   Mouse over "File" click "Load selected values" from the menu under file:"

> 12.1.   Find a Map/Cal that has the same size engine, same cam, and same pipe as the bike you are tuning and open the .pvt file
>
> 12.2.   Dialog box opens with a list the selected values (tables) to copy.
>
>> 12.2.1.   Click ok
>
> 12.3.   If you don't have something close to choose from you will have to start with what you have at this point. It will be more work, however you can save it to use the air tables on the next one with this combination.

13.   Check the following important tables.

>> 13.1.1.   ***Note: several of these tables may have been changed by the Values we imported in steps 9 & 10***

14.   2020 If RDRS disable it by putting a "0" in the "Torque Based ETC" table.

> 14.1.   If the bike has RDRS make sure you put a 1 back in after calibration to turn it back on.

15. 2021-* with RDRS disable it by putting a "0" in the "Torque Based ETC" and putting a 0 in the RDRS table.
16. Injector Size
17. Air-Fuel Ratio set to a tune you like
18. RPM Limit: normally 6-6.5 on Harley Big Twins
19. Speed Limiter set to 255 in all of the speed limiter tables.
20. Spark Advance, if you don't know what to look for here yet just make sure it looks similar to the other spark tables you have used. Eventually you will learn what to look for here.
21. Save tune and send to a power vision custom tune slot. I like to start in Slot 1.
22. Set up autotune
    22.1. Disconnect computer USB cable from PV
    22.2. Turn on motorcycle key/run switch
    22.3. Click Program vehicle
    22.4. Accept
    22.5. Autotune
    22.6. Enable autotune
    22.7. Select your cal from the custom slot you saved it in
    22.8. Select the Wide Bands you are using
        22.8.1. Pro/Dynojet AT2 Wideband Kit
        22.8.2. Target Tune
            22.8.2.1. If the bike has Pro Street Tuner Wideband also select Target Tune and they will work
    22.9. Continue
    22.10. After it's done, power off bike. After 10 seconds, power it on and start it up
23. Get some heat in it 170-200F or so
24. Check MAP(KPA) at idle
    24.1. Should be between 25 kpa and 35 kpa.
    24.2. if it is higher go to the PV software and load the tune.
    24.3. Under Airflow Go to Map Load Normalization and to 1000 rpm.
    24.4. Change the ratio number at 1000 rpm.
        24.4.1. Example if the KPA was 40 put .9 for ratio number. If the KPA is 50 put .8 for ratio number. if it's a Twin Cam you can adjust Front IVO and IVC using Cam Cruncher. You still may have to adjust the 1000 cell on the MAP Load Normalization table
25. Send the cal back to one of the PV custom tune slots.
        25.1.1.1. Disable auto tune

      25.1.1.2.   Enable autotune using the new version of the cal. turn off for 10 seconds

26. Start the bike if the idle is in the proper range, you are ready to auto tune.

27. Stripe all the throttle positions on the VE table using WinPEP 8 and Power Vision