

# POWER VISION 3

Installation Guide for: PV3-15-03

## Model Coverage:

2021-2022 Harley Davidson Touring/Softail Models

2021-2022 Harley Davidson Pan America

2021-2022 Harley Davidson Sportster S

## PARTS LIST



- |   |                 |   |               |
|---|-----------------|---|---------------|
| 1 | POWER VISION 3  | 2 | VELCRO        |
| 1 | REFLASH HARNESS | 2 | DYNOJET DECAL |
| 1 | USB CABLE       |   |               |

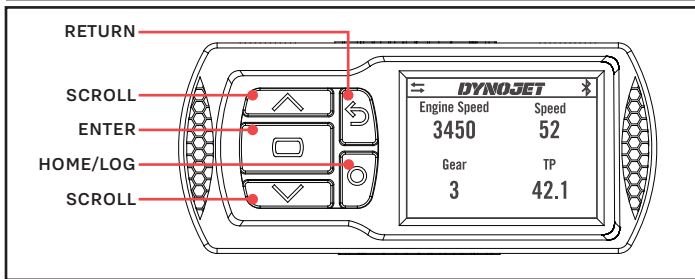
**PLEASE READ ALL DIRECTIONS BEFORE STARTING INSTALLATION**



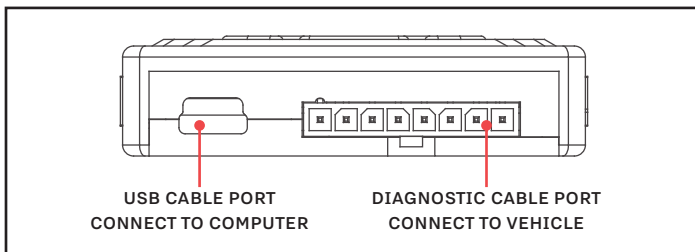
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**DAVIDSON**

# INTRODUCTION



POWER VISION OVERVIEW—FRONT VIEW



POWER VISION OVERVIEW—SIDE VIEW

Thank you for purchasing the Power Vision from Dynojet Research. At Dynojet, our mission is to make every ride the ultimate ride. The Power Vision allows you to tune your stock ECU to achieve optimal performance from your vehicle.

The Power Vision is the device to interface between your computer and the vehicle ECU. Use the buttons to navigate the device menus, make selections, cycle through the four full-color available gauge screens, and log data. Connect to the diagnostic port to flash a tune; use the USB connection to interface between the Power Vision and your computer.

Make your Power Vision device yours; display the channels you want to see with four user-customizable full-color gauge screens. Make the Power Vision your window into your vehicle; secure the Power Vision to your dashboard or handlebars to monitor any desired set of gauges such as Throttle Position, Engine Speed, and more. Wideband Air:Fuel Ratio and integrated belt temperature can be added as channels to the PV3's monitors by adding the accessories available at [www.dynojet.com](http://www.dynojet.com).

For state of the art technical support, please visit [www.dynojet.zendesk.com](http://www.dynojet.zendesk.com).

# INSTALLING THE POWER VISION



DIAGNOSTIC PORT



ROUTING THE CABLE

This installation was done on a Harley-Davidson Pan America. Your bike and set-up may vary.

- 1 Attach the diagnostic cable to the diagnostic port on the Power Vision and to the diagnostic port on the vehicle. Refer to the Diagnostic Port Location below.  
**Note:** The Power Vision may be damaged if installed improperly. The location of the diagnostic port varies depending on the model, please refer to a service manual or contact Dynojet for the exact location. Use caution as many models use the same style connector for accessories; your Power Vision **MUST** be connected to the diagnostic port.
- 2 Route the Power Vision cable away from any moving or hot parts. Dynojet recommends using zip ties to secure the cable to existing non-moving components.
- 3 Secure the Power Vision to the vehicle using the supplied Velcro or mounting hardware. Make sure the Power Vision will not interfere with the operation of the vehicle. Visit [www.dynojet.com](http://www.dynojet.com) for an array of mounting solutions for your Power Vision.  
**Note:** The Power Vision does not need to be mounted to the vehicle, however, the Power Vision provides a window into your vehicle. Mount the Power Vision to your handlebars and gain access to customizable full-color gauge screens, along with data logging and troubleshooting screens.

## DIAGNOSTIC PORT LOCATION



2021-2022 Touring Models

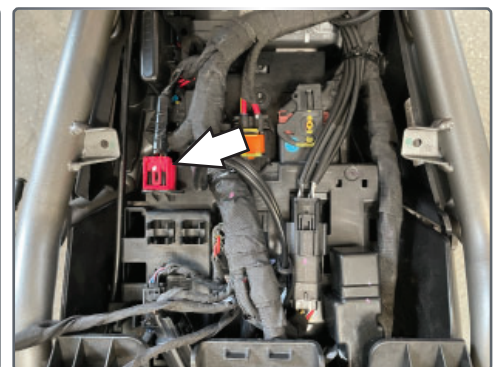
Diagnostic connector is located behind the left hand side cover. Connector is Red, 6 pin.

**Note:** Requires removing the left side saddle bag.



2021-2022 Sportster S

Diagnostic connector is located underneath the seat. Connector is Red, 6 pin.



2021-2022 Pan America

Diagnostic connector is located underneath the main seat. Connector is Red, 6 pin.

# GETTING STARTED

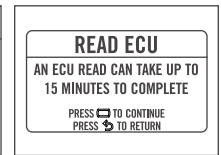
Use the Tune File Wizard to prepare your Power Vision device with the stock (.stk) and tune (.djt) files needed to flash your vehicle.

- 1 Connect the Power Vision to the vehicle.
- 2 Turn the key on. The Power Vision will scan for files.  
There are three possible file states:  
**File State 1:** No compatible tune or stock files.  
**File State 2:** No compatible tune files.  
**File State 3:** All required files found.
- 3 Gauges are displayed.

Connect the Power Vision to the vehicle diagnostic port to collect ECU information. Turn the key on.



**File State 1:**  
Press the **Enter** button for ECU read to begin the tuning process. This process takes about fifteen minutes.



**File State 2:**  
Go to [tunes.dynojet.com/](https://tunes.dynojet.com/) to download tune files.



**File State 3:**  
All required files found. The Power Vision is ready to flash a tune to the connected vehicle.

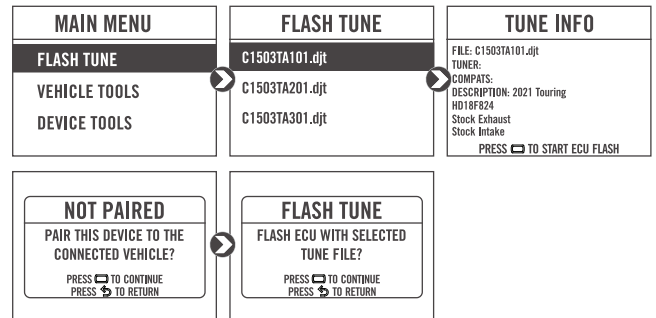


# FLASHING YOUR VEHICLE

The Power Vision must be paired to the connected vehicle ECU to function properly.

**Note:** Once paired to the vehicle ECU, the Power Vision will not work on another vehicle without purchasing a tune license.

- 1 From the Main Menu, select **Flash Tune**.
- 2 Select the tune file (.djt) and press **Enter** to view the Tune Info.  
**Note:** The Dynojet tune file (.djt) is a tune file which is different (better than stock performance or the necessary file when bolting on an exhaust, for example); the stock file (.stk) is the direct duplicate of what the OEM shipped.
- 3 Press **Enter** to accept the tune and pair the Power Vision to the vehicle.  
**Note:** Pair to vehicle will only happen on the first flash.
- 4 Press **Enter** to pair and lock the Power Vision to the ECU and to begin the flash. Do not turn off the key switch or disconnect the Power Vision during the flash.
- 5 After the flash is complete, turn the key off and wait 45 seconds before turning the key back on to start.



# VIEWING THE VEHICLE INFORMATION

This menu allows you to view the device status (paired/not paired), VIN #, Model ID, ECU serial number, tune compat, and checksum compat.

Select **Vehicle Tools>Vehicle Information**.

MAIN MENU	VEHICLE TOOLS	VEHICLE INFO
FLASH TUNE	VEHICLE INFORMATION	PAIRED VEHICLE: DEVICE NOT PAIRED
VEHICLE TOOLS	DIAGNOSTICS	VIN: 56KMSA005F3101859
DEVICE TOOLS	READ ECU	MODEL ID: NFSBBAZ000
		TUNE COMPAT: VMB860ASJO
		CSUM COMPAT: 508A7B03

# VIEWING THE DIAGNOSTIC CODES

This menu allows you to read and clear diagnostic trouble codes.

- 1 To read codes, select **Vehicle Tools>Diagnostics>Active Codes**.
- 2 To clear codes, select **Vehicle Tools>Diagnostics>Clear Codes**.

MAIN MENU	VEHICLE TOOLS	DIAGNOSTICS
FLASH TUNE	VEHICLE INFORMATION	ACTIVE CODES
VEHICLE TOOLS	DIAGNOSTICS	HISTORIC CODES
DEVICE TOOLS	READ ECU	CLEAR CODES

# READING THE ECU

This menu allows you to read the ECU. This process takes about fifteen minutes.

Select **Vehicle Tools>Read ECU**.

MAIN MENU	VEHICLE TOOLS	READ ECU
FLASH TUNE	VEHICLE INFORMATION	AN ECU READ CAN TAKE UP TO 15 MINUTES TO COMPLETE
VEHICLE TOOLS	DIAGNOSTICS	PRESS  TO CONTINUE
DEVICE TOOLS	READ ECU	PRESS  TO RETURN

# RESTORING THE ECU

This menu allows you to restore the ECU. Use Restore ECU if the device does not complete the flash or if your vehicle will not start.

Select **Vehicle Tools>Restore ECU**.

MAIN MENU	VEHICLE TOOLS	RESTORE ECU
FLASH TUNE	READ ECU	RESTORE ECU TO ORIGINAL STK FILE?
VEHICLE TOOLS	DELETE DATA LOG	PRESS  TO CONTINUE
DEVICE TOOLS	RESTORE ECU	PRESS  TO RETURN

# CONFIGURING GAUGES

Make your Power Vision device yours; display the channels you want to see with four user-customizable full-color gauge screens. Each gauge screen has one, two, or four configurable channels. Monitor channels such as Wideband, AFR, Boost, and integrated belt temperature sensor. Sample gauges shown here; for a complete list of monitors available, open the tune file in Power Core or scroll through the gauges on the device when configuring or selecting channels for the list of options.

- 1 From the Main Menu, select **Device Tools>Configure Gauges**.
- 2 Select a gauge screen and press **Enter**.
- 3 Select a channel and press **Enter**.
- 4 Select a channel from the list and press **Enter**.
- 5 Select the precision or units for that channel and press **Enter**.
- 6 Continue setting up the remaining channels as desired.
- 7 Continue configuring the remaining gauge screens as desired.

MAIN MENU	DEVICE TOOLS	CONFIGURE GAUGES
FLASH TUNE	CONFIGURE GAUGES	SCREEN 1
VEHICLE TOOLS	DEVICE INFORMATION	SCREEN 2
DEVICE TOOLS	REFORMAT DISK	SCREEN 3
		SCREEN 4

CONFIGURE SCREEN	SELECT UNIT	SELECT PRECISION
CHANNEL 1	RPM	0
CHANNEL 2	RPMx10	0.0
CHANNEL 3	RPMx100	0.00
CHANNEL 4	RPMx1000	0.000

<b>DYNOJET</b>	<b>DYNOJET</b>	<b>DYNOJET</b>
Engine Speed	Engine Speed	Front CLI      Rear CLI
<b>3450</b>	3450	198.2      191.7
	Gear	Total FT F      Rear FT F
	3	100      115

# LOGGING DATA

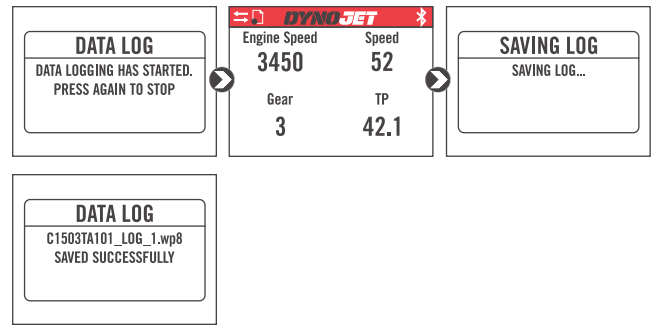
The Power Vision is a powerful logging tool to diagnose running issues. Use the Power Vision to log all vehicle operating data and review the data in the Power Core software. Troubleshoot an issue such as knock, speed/RPM limitation, throttle blade closure and more by keeping the Power Vision mounted to view and record channels.

1 Press the **Log** button to begin logging. The Power Vision screen will illuminate a bright red banner across the top when logging.

2 Press the **Log** button again to stop logging.

3 Use the Power Core software to view log files.

**Snapshot Log:** Press and hold the **Log** button for two seconds to record the previous two minutes of operating time.

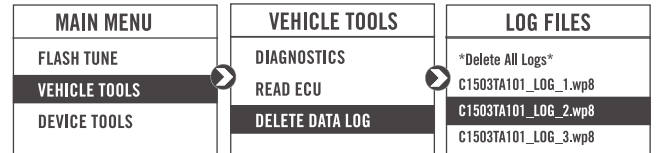


# DELETING DATA LOGS

This menu allows you to delete data logs.

1 Select **Vehicle Tools>Delete Data Log**.

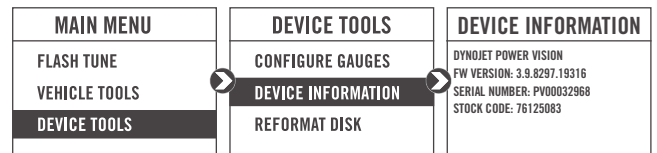
2 Select a specific log to delete or select **\*Delete All Logs\***.



# VIEWING THE DEVICE INFORMATION

This menu allows you to view the device firmware version, serial number, and stock code.

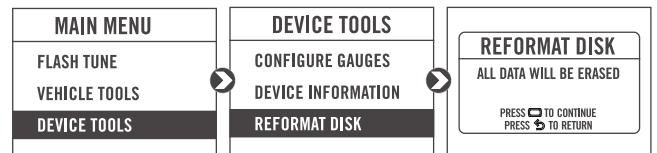
Select **Device Tools>Device Information**.



# REFORMATTING THE DISK

This menu allows you to reformat the disk and erase all data.

Select **Device Tools>Reformat Disk**.



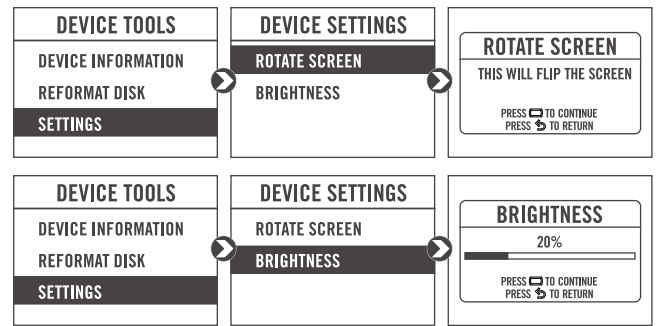


# CHANGING THE SETTINGS

This menu allows you to rotate the screen allowing you to change the orientation of the Power Vision device along with adjusting the screen brightness. Turn the brightness up and make your screen pop!

Select **Device Tools>Settings>Rotate Screen** to flip the screen.

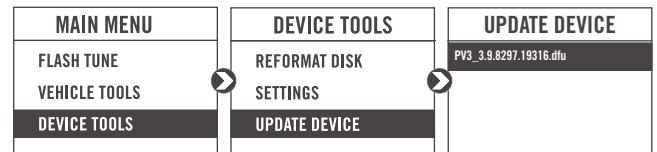
Select **Device Tools>Settings>Brightness** to change the screen brightness.



# UPDATING THE DEVICE

This menu allows you to update the device with the latest firmware.

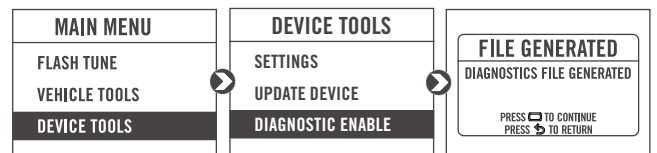
- 1 Go to [www.dynojet.com](http://www.dynojet.com).
- 2 From the top navigation menu, select **Support>Downloads**.
- 3 Click **Power Vision 3**.
- 4 Click the **Firmware** drop-down and download the Power Vision 3 Firmware for Harley-Davidson.
- 5 Save the file to your device.
- 6 Select **Device Tools>Update Device**.



# DIAGNOSTIC ENABLE

This menu allows you to create a file containing device diagnostic information used by Dynojet Tech Support.

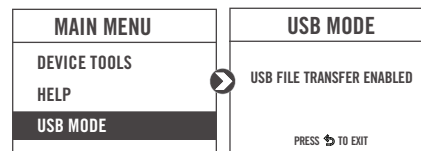
- 1 From the Main Menu, select **Device Tools>Diagnostic Enable**. This will turn on diagnostic logging. Logging will continue until the device is restarted.
- 2 If requested by Dynojet Tech Support, connect your Power Vision to a computer and email the diagnostic file to [PV3tech@dynojet.com](mailto:PV3tech@dynojet.com). Diagnostic log files are placed in the log files directory.



# USB MODE

This menu allows you to connect your Power Vision to your computer and enables sending and receiving files.

- 1 Connect the Power Vision to your computer using the included USB cable. The Power Vision will automatically enter USB Mode.  
OR  
From the Main Menu, select **USB Mode**.
- 2 Transfer the desired files to your computer or to the Power Vision.



# USING AUTOTUNE BASIC

Autotune Basic utilized the narrowband O2 sensors on bikes that have OEM closed loop fuel control. After the data is collected, the Power Vision can process the data, correct the tune, and then re-flash the corrected tune into the ECM. Leave the laptop at home, you now have a full time, professional tuning expert inside your Power Vision.

- 1 Connect the Power Vision to the vehicle.
- 2 Flash the .djt file.
  - Note:** A .djt file created in Power Core 3.0 or later is required to use Autotune.

- 3 From the Main Menu, select **Tuning>Autotune>Enable>Enable AT Basic**.

Once Autotune is enabled, "AT" will be visible in the top left corner. Autotune will not turn off until disabled.

- 4 Start the vehicle. Autotune will not begin until the vehicle is warmed up. The Autotune ready icon (AT:) will appear in the top left once all conditions are met.
- 5 Autotune is now active and logging has started. Logging begins when the vehicle is running.
- 6 Once complete, turn the vehicle off.

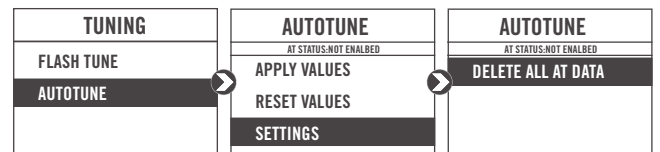
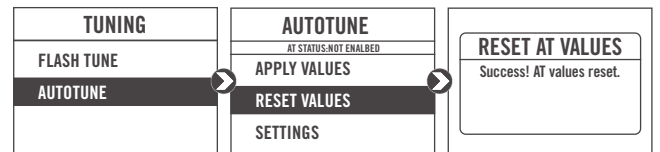
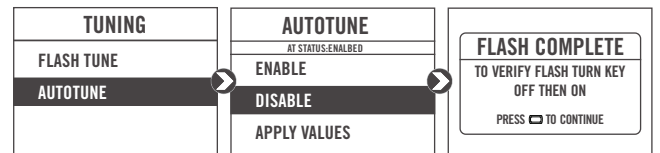
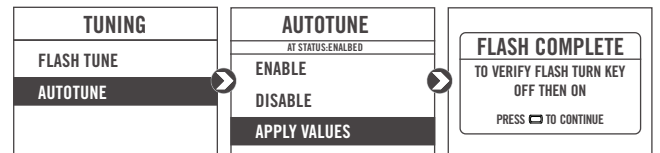
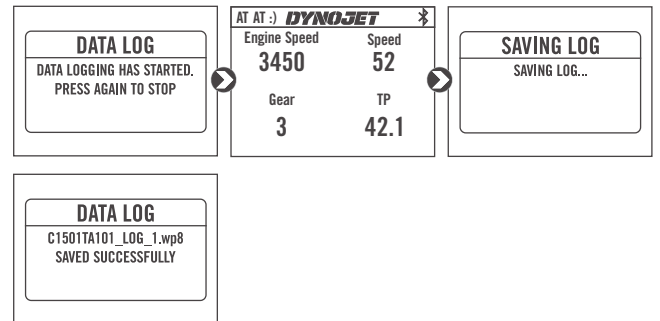
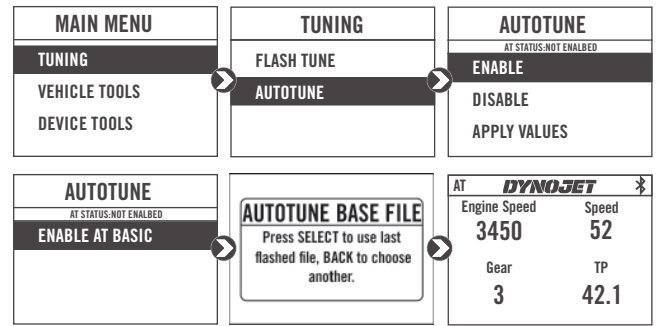
- 7 From the Main Menu, select **Tuning>Autotune>Apply Values**.

Autotune will calculate the corrections and flash the new tune to the vehicle.

- 8 From the Main Menu, select **Tuning>Autotune>Disable** to exit Autotune. "AT" will be replaced with the double arrow icon to confirm Autotune is disabled. This tune flash will not contain the table values required to engage the Autotune session, but only the fueling values learned during the Autotune process; with the others restored to normal operating defaults.

- 9 From the Main Menu, select **Tuning>Autotune>Reset Values** to reset the Autotune values.

- 10 From the Main Menu, select **Tuning>Autotune>Settings>Delete All AT Data**. Use this to delete all Autotune data from the Power Vision.





# USING THE POWER VISION UPDATE CLIENT

This stand alone application will launch the Update Client allowing you to update your Power Vision with the latest firmware, retrieve additional tunes, or restore the Power Vision to the original Dynojet factory settings.

- 1 Connect the Power Vision to your computer using the included USB cable.
- 2 Navigate to the POWERVISION drive attached to your computer and run the **Update.exe** file.
- 3 Click **Update** to load the current firmware. If the Update button is grayed out, your Power Vision already has the latest firmware.
- 4 Click **Restore** to reload all original Dynojet tune and stock files.
- 5 Click **Get Tunes** to open the Dynojet Tune Finder. Follow the instructions to Upload your PV\_Info.txt file and retrieve new tunes.
- 6 Click **Manual Firmware Update** to navigate to and load a version of firmware already saved on your computer.



# INSTALLING THE POWER CORE SOFTWARE

Download the Power Core software and take tuning to a whole new level.

**Note:** Downloading the Power Core software is optional and not necessary to use the Power Vision.

- 1 Go to [www.dynojet.com](http://www.dynojet.com).
- 2 From the top navigation menu, select **Support>Downloads**.
- 3 Click **Power Vision 3**.
- 4 Click the **Software** drop-down and download the Dynojet Power Core software.
- 5 Double-click the saved file to begin installation. Follow the on-screen prompts. Refer to the Power Core Help for more information.

