

# Analyzing the Knock Detective's output with Holley Terminator X

V1.0 – Jan 15, 2025

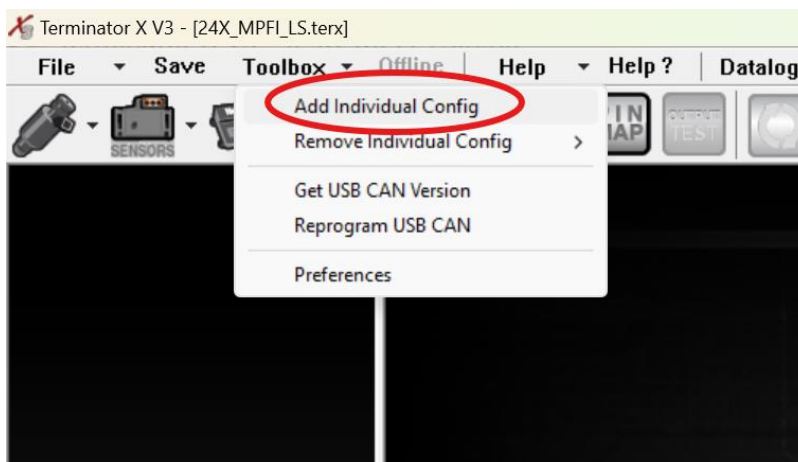


1 – Connect the **BLUE** wire from the Knock Detective to an available analog input wire on your Holley Terminator X ECU. Take note of which input you have selected. Make sure there is a ground connection from the Knock Detective to your ECU. Since the exact voltage isn't crucial, the ground connection through the chassis may be sufficient. Depending on your specific model/vehicle you may have different available inputs. Click the **Pin Map** icon to view which wires are available:

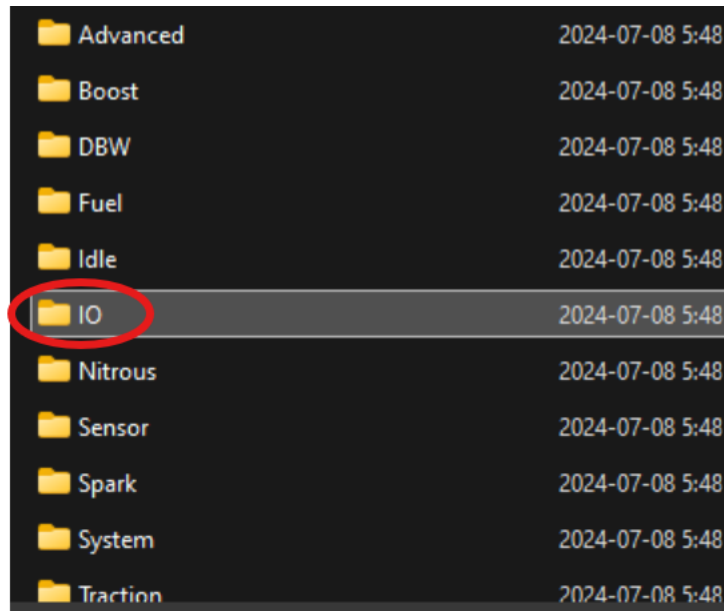


CONNECTOR J1		
Pin	Input Number	Input Type
A12	Input #1	G AC Kick
A3	Input #2	F 5 H G
A13	Input #3	F 5 H G
A4	Input #4	F 5 H G

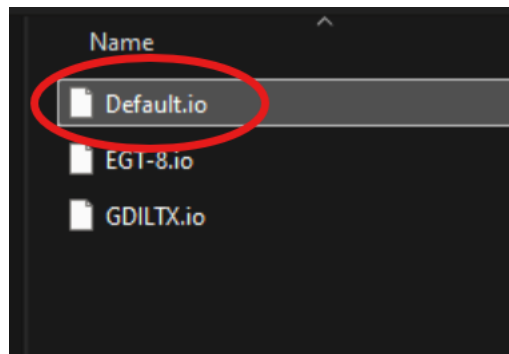
2 – Click **Toolbox**, and then click **Add Individual Config**:



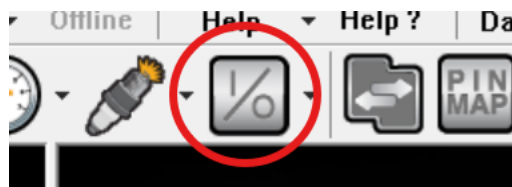
3 - Navigate to the **IO** folder:



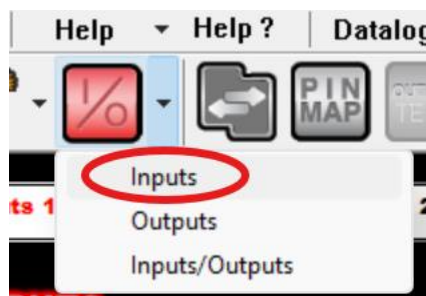
4 - From within this folder select **Default.io**:



5 - This will enable the I/O icon:



6 - Select **Inputs** from the dropdown:



7 – Select **ENABLE**, then type in **Knock Detective** and select **5 VOLT** as shown below:

INPUTS						
	NAME	TYPE	ECU PIN	ENABLE		
#1	Knock Detective	5 VOLT	NOT DEFINED	<input checked="" type="checkbox"/> Enable	Configure	Where Used
#2		GROUND	NOT DEFINED	<input type="checkbox"/> Enable	Configure	Where Used

8 – Click the Configure button:

INPUTS						
	NAME	TYPE	ECU PIN	ENABLE		
#1	Knock Detective	5 VOLT	NOT DEFINED	<input checked="" type="checkbox"/> Enable	Configure	Where Used
#2		GROUND	NOT DEFINED	<input type="checkbox"/> Enable	Configure	Where Used

9 – Under **Type**, scroll to the bottom of the list and select **Custom 5V**:

SETTINGS	
Type	Holley 1bar (538-24)
Units	Holley 50psig SS Holley 100psig SS (554-102) Holley 200psig SS (554-103) Holley 500psig SS (554-136) Holley 1600psig SS (554-104) Holley 3000psig SS (554-137) Chrysler 05149062
Format	GM LSx Oil Pressure GM LTx Oil Pressure Ford 7.3L Oil Pressure Custom Pressure
Sensor Min	Holley 30amp Sensor (554-170) Holley 350amp Sensor (554-170) Holley 50amp Sensor(554-171) Holley 200amp Sensor (554-171) Holley G-Meter X-Axis (554-162) Holley G-Meter Y-Axis (554-162)
Display Min	Holley EGT
Caution Min	Racepak Shock Travel 0-2 Racepak Shock Travel 0-3 Racepak Shock Travel 0-4 Racepak Shock Travel 0-6 Racepak Shock Travel 0-8 Racepak 200C IR Temp Racepak Laser Height Racepak Vacuum Sensor (810-PT-VB)
Normal Min	AEM 30-2056 Trim Pot MAD-36101 Laser Height
Offset	5 Volt Custom 5V

10 – Set **Units** to %, **Display Min** to 0, and **Display Max** to 100:

**SETTINGS**

Type: Custom 5V

Units: %

Format: 1

Sensor Min: 0 %

Display Min: 0 %

Caution Min: 0 %

Normal Min: 0 %

Sensor Max: 100 %

Display Max: 100 %

Caution Max: 100 %

Normal Max: 100 %

Enable PC/LCD Caution Output

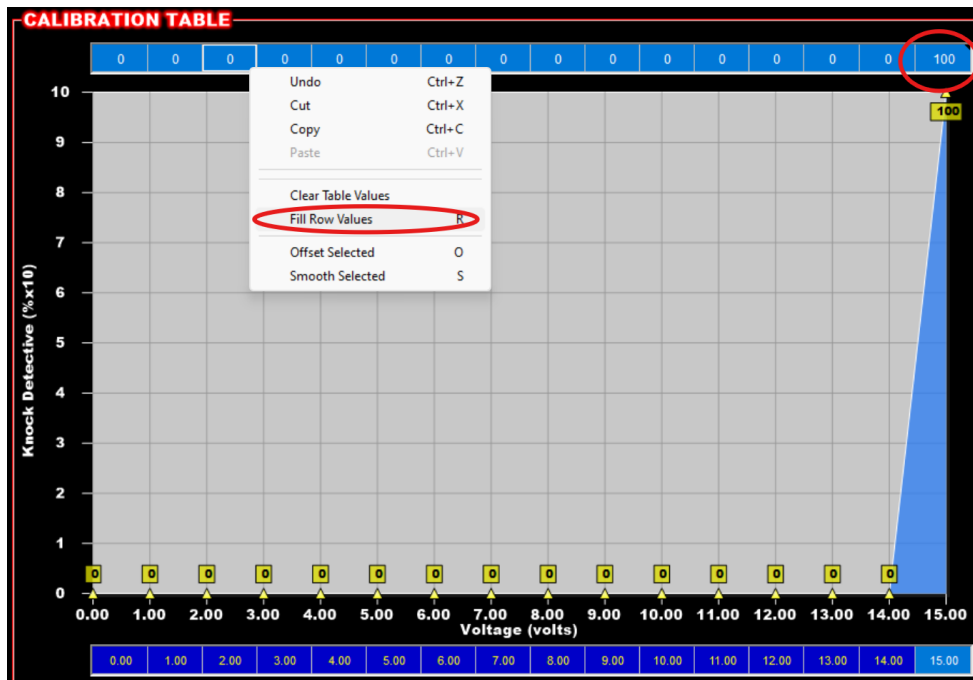
Enable Switched Caution Output

Enable PC/LCD Warning Output

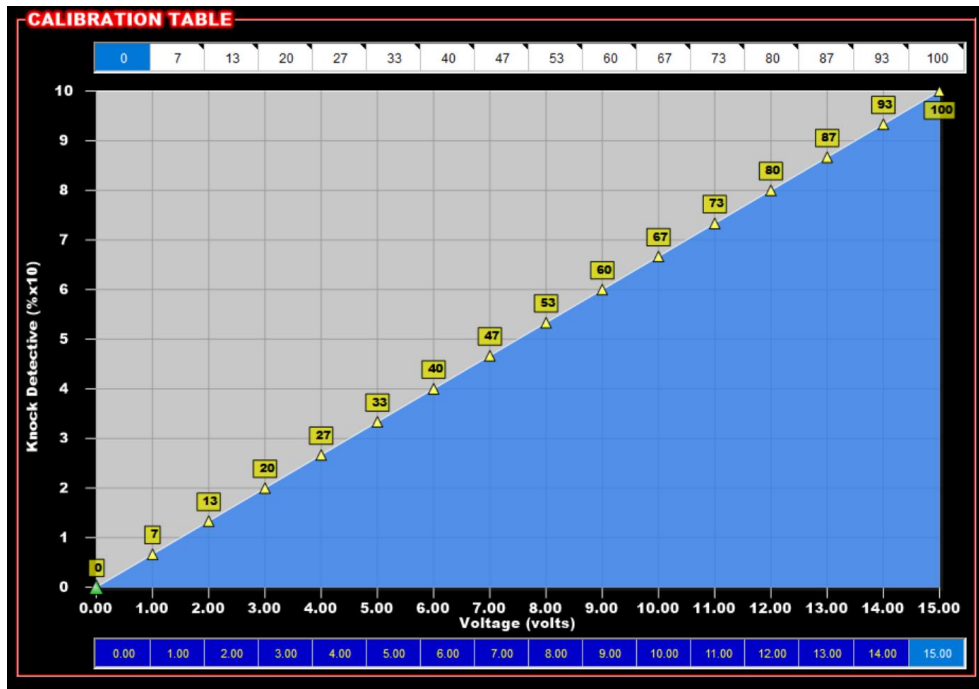
Enable Switched Warning Output

Warning Enabled Timing Offset: 0

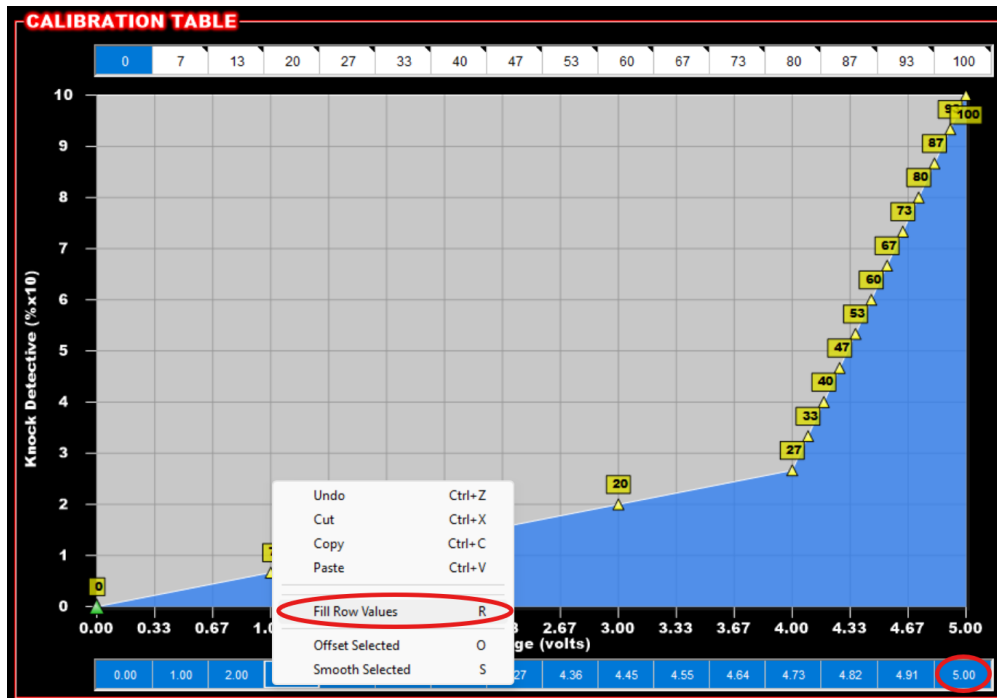
11 – Under the **Calibration Table**, enter 100 as the last value in the top row, then select all the values in the row, then right-click and select **Fill Row Values**:



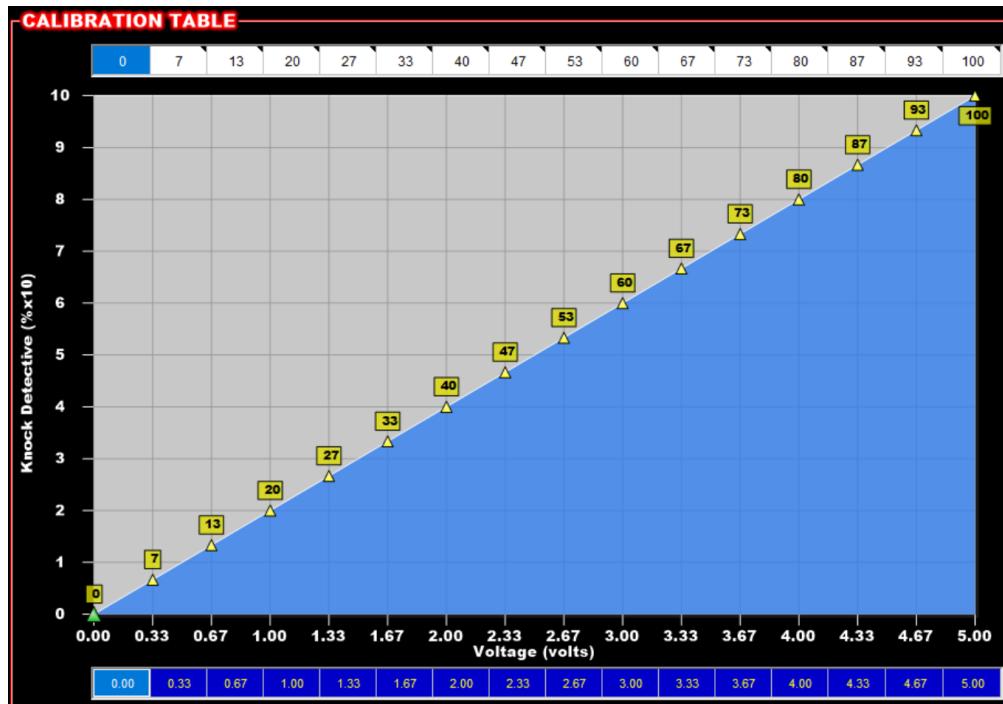
12 - This will linearly interpolate the graph:



13 - Next, enter 5 as the last value in the bottom row, then select all the values in the row, then right-click and select **Fill Row Values**:



14 - This will once again linearly interpolate the graph:



15 - Now that the input has been configured, it's time to assign it to the wire you connected the Knock Detective's **BLUE** wire to. Click the **Pin Map** icon:



16 - Drag Knock Detective down to the input corresponding to where you have it wired:

Terminator X ECU Pin Map

View Inputs View LCD View Outputs View Injectors View

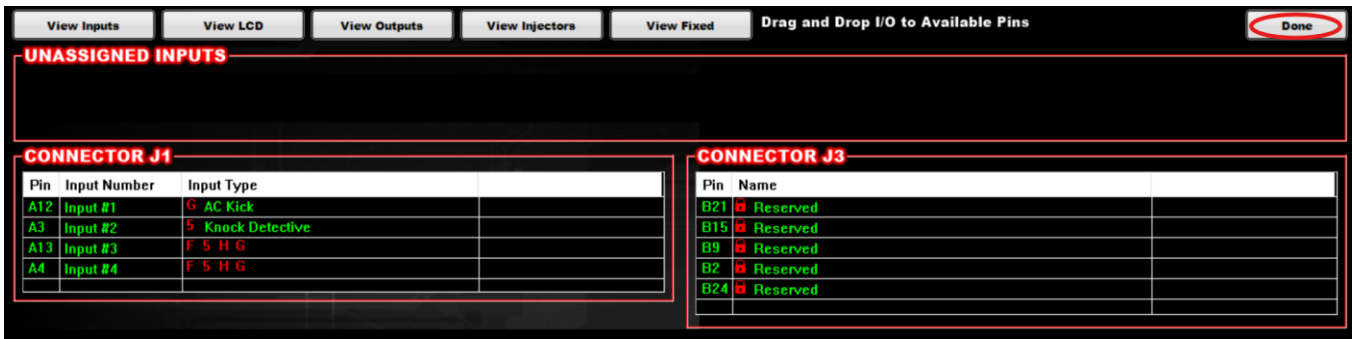
**UNASSIGNED INPUTS**

- 5 Knock Detective

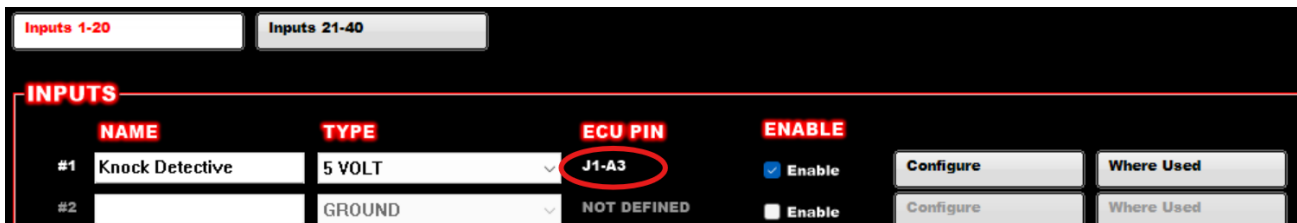
**CONNECTOR J1**

Pin	Input Number	Input Type
A12	Input #1	G AC Kick
A3	Input #2	F 5 H G
A13	Input #3	F 5 H G
A4	Input #4	F 5 H G

17 – Click **Done**:

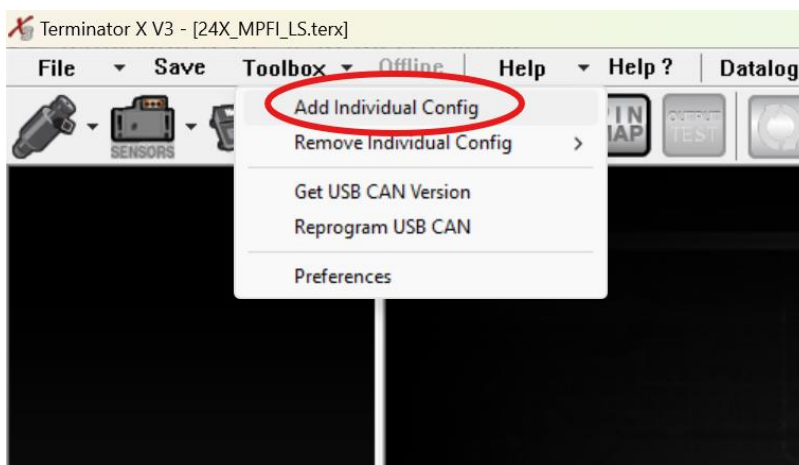


18 – You should now see it assigned to that input:

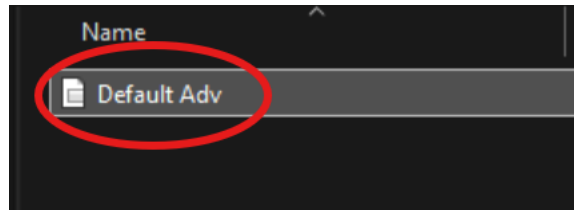
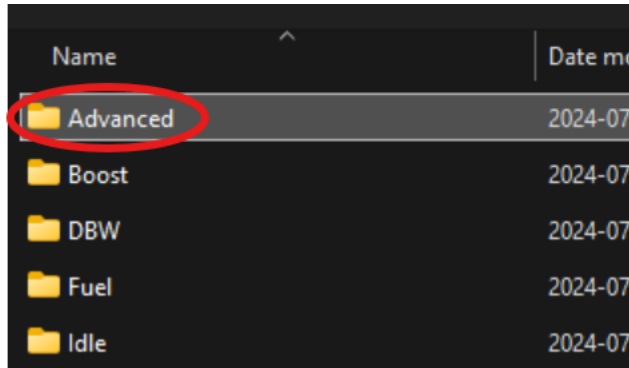


19 – You are now ready to start datalogging the Knock Detective's Output!

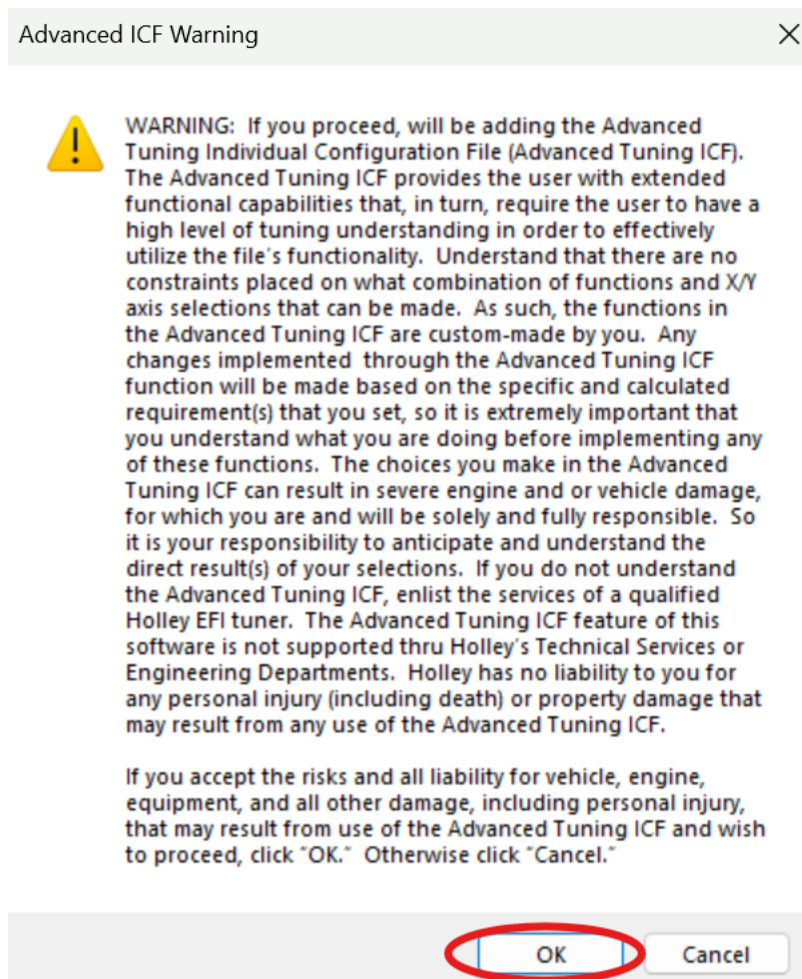
20 – You can also get creative with how you use this parameter in your ECU. For example, after setting the sensitivity of the gauge, if you do a full throttle pull all the way to redline, record the Knock Detective's output while verifying there was no knock using your headphones, you will now have the amplitude vs RPM of a clean run. Using this information, you can set up a table which references **RPM** vs **Knock Detective Output**. This table can then retard timing if the amplitude goes above the threshold you recorded. In order to do this, we must add another individual config:



21 – From within the **Advanced** folder, select **Default Adv**:

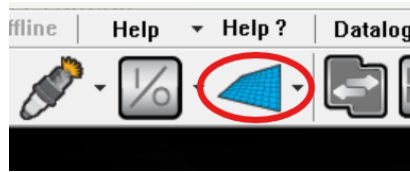


22 – Ya ya ya ya ya ya, ok:

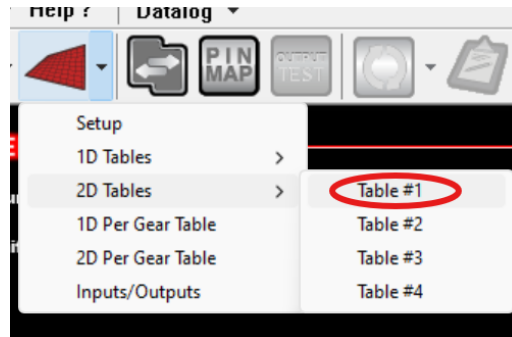




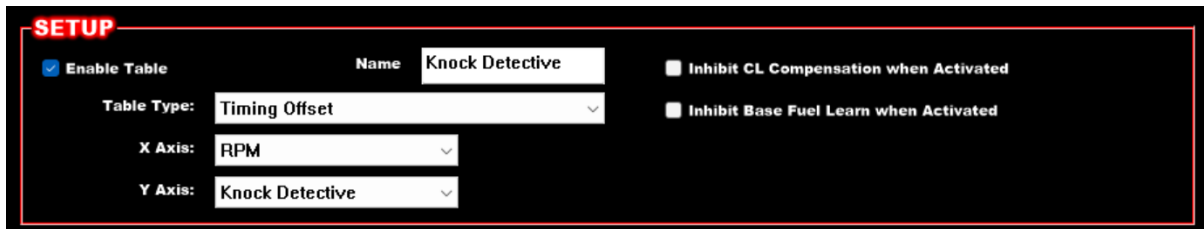
23 - We now have access to some advanced features using this icon:



24 - Select Table 1 from the 2D table dropdown:



25 - Enable the table and populate the values as shown below:



26 - Change the last RPM value to something that makes sense for your specific engine and then right-click and fill values:

