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## Toyota VAST 24 toothed setup

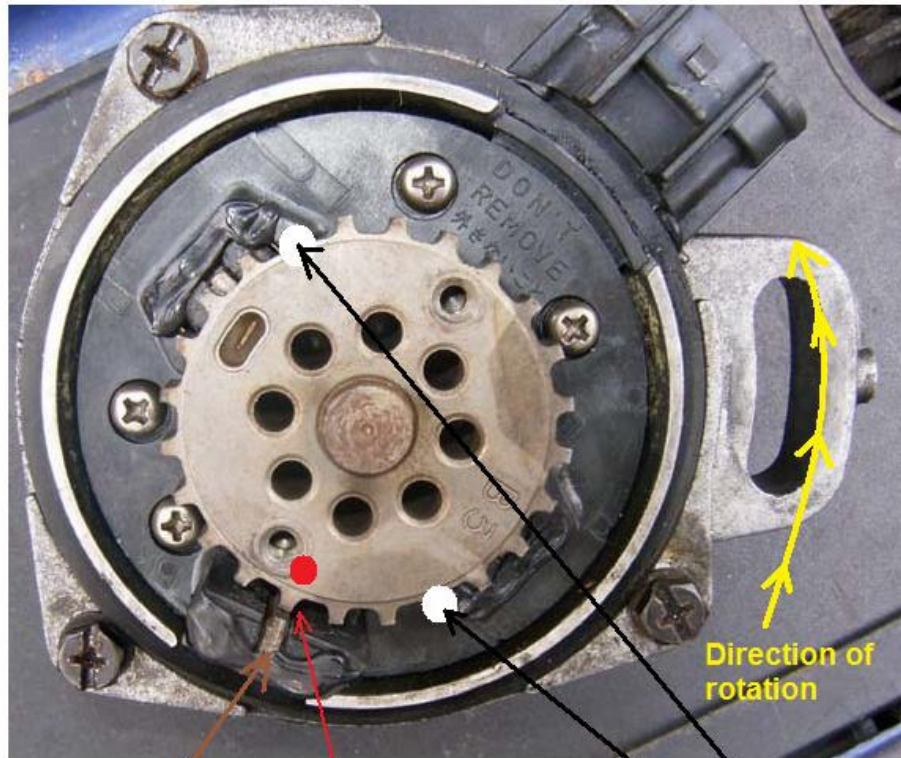
**Note: For older 4 toothed distributors you don't need to cut teeth off or follow these settings. Simply treat it like a standard distributor setup, there are instructions for that on my site.**



Before removing the distributor put the engine to TDC for cy#1 and mark the tooth that is beside the VR sensor for the 24 teeth. There are 2 sensors, one sits higher than the other to pick up the 24 teeth, this is the VR sensor you will need to use for alignment and for the MS ECU. The other will not be needed.

**Please note: If the sensor isnt quite lined up with a tooth then rock the distributor by loosening the bolt that holds it down.**

## Toyota VAST 24 toothed distributor



VR sensor for 24 teeth

Marked tooth when engine at TDC cy#1

2 teeth to cut off

Remove the distributor and align the marked tooth back up to the VR sensor. Cut the 2 teeth off that are highlighted above in white. (the teeth to be cut are 180deg apart)

Now you have a 12-1 crank signal (remember that the crank rotates at twice the speed the distributor does)

Wire the 24 toothed VR sensor as the trigger input to the MS ECU.

**NB** If you wish, you can use the **Ne** output from the ignitor module rather than wiring the trigger direct to the VR sensor. This gives a 12V square wave output and is a much cleaner method. The VR input of the MS can take this straight in, but you may have to alter the VR pots to get it working.

## MS1 Settings:

Cycle power after changes(F1=HELP)

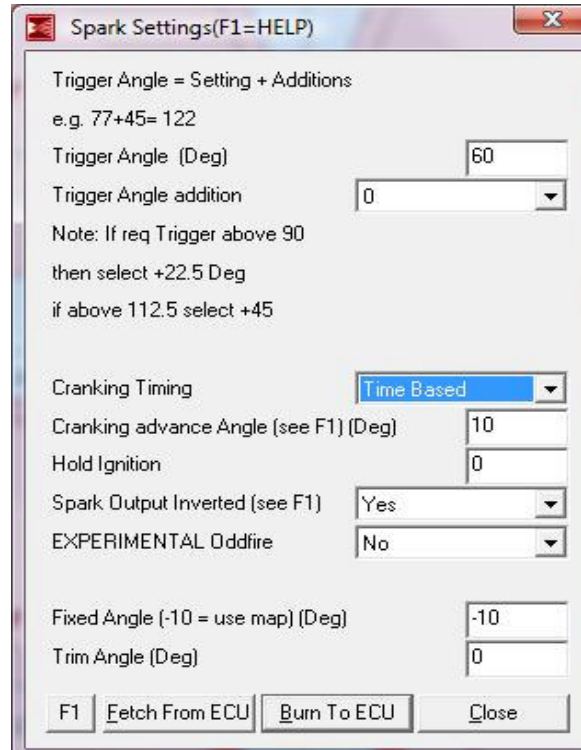
Choose one code type

Distributor (MSnS)	Off^
Neon/420A decoder	Off^
Wheel decoder (e.g. 36-1)	Generic wheel
EDIS	Off^
EDIS multispark	Off^
TFI ignition	Off^
HEI Ignition	Off^

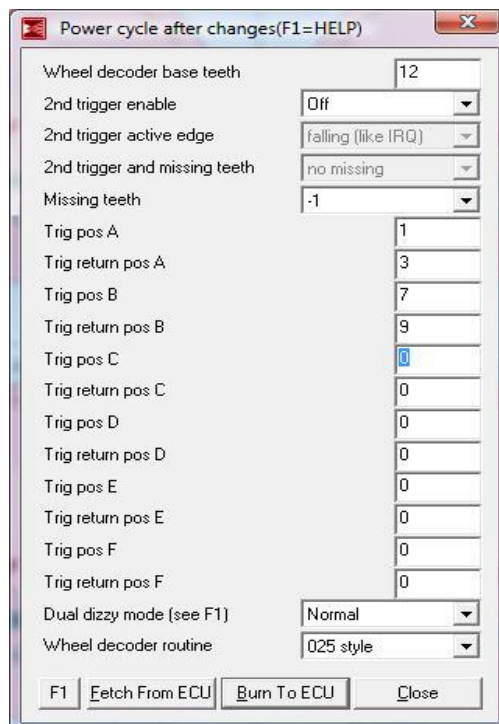
Choose input/output pins to use

FIDLE function	Idle control*
LED17(D14) function	Spark output A
LED18(D15) function	Warmup*^
LED19(D16) function	Acceleration*^
Multiplex ignition?	Normal*
X2 (JS0) function	Fan control
X4 (JS2) function	Boost Control
output3/Spark D	Output3
pin10 shift / Spark E	Shiftlight
knock in / Spark F	Knock input

F1 Fetch From ECU Burn To ECU Close



The **Trigger Angle** in **Spark Settings** will need fine tuning when the engine is running. To do this use a strobe and enter a **Fixed Angle** of 10deg. Adjust the **Trigger Angle** value until the strobe shows the timing at 10deg, then put the **Fixed Angle back to -10**



## MS2 Settings:

The screenshot shows the 'Ignition Options' dialog box. It has a title bar with a close button (X). The dialog is divided into sections. The 'General Ignition' section includes: 'Spark mode(dizzy, EDIS,wheel)' set to 'Toothed wheel'; 'Trigger Angle/Offset (deg)' set to '0.00'; 'Angle between main and return (deg)' set to '50.0'; 'Oddfire small angle' set to '90'; 'GM HEI/DIS options' set to 'Off'; and 'Skip Pulses' set to '3'. The 'Ignition Input Capture' section is set to 'Rising Edge'. The 'Spark Output' section is set to 'Going High (Inverte)'. Other settings include 'Number of coils' set to 'Single coil' and 'Spark A output pin (D14)' set to 'D14'. At the bottom, there are buttons for 'F1', 'Fetch From ECU', 'Burn To ECU', and 'Close'.

Section	Parameter	Value
General Ignition	Spark mode(dizzy, EDIS,wheel)	Toothed wheel
	Trigger Angle/Offset (deg)	0.00
	Angle between main and return (deg)	50.0
	Oddfire small angle	90
	GM HEI/DIS options	Off
	Skip Pulses	3
Ignition Input Capture	Ignition Input Capture	Rising Edge
Spark Output	Spark Output	Going High (Inverte)
Number of coils	Number of coils	Single coil
Spark A output pin (D14)	Spark A output pin (D14)	D14

The screenshot shows the 'Trigger Wheel Settings' dialog box. It has a title bar with a close button (X). The dialog includes: 'Trigger wheel arrangement' set to 'Single wheel with m'; 'Trigger Wheel Teeth (teeth)' set to '12'; 'Missing Teeth (teeth)' set to '1'; and 'Tooth #1 Angle (deg BTDC)' set to '60.00'. Other settings include 'Wheel speed' set to 'Crank wheel', 'Second trigger active on' set to 'Rising edge', and 'and every rotation of..' set to 'Cam'. A note '(see F1 help)' is present. A red banner at the bottom states 'Red settings require an MS-II reboot!'. At the bottom, there are buttons for 'F1', 'Fetch From ECU', 'Burn To ECU', and 'Close'.

Parameter	Value
Trigger wheel arrangement	Single wheel with m
Trigger Wheel Teeth (teeth)	12
Missing Teeth (teeth)	1
Tooth #1 Angle (deg BTDC)	60.00
Wheel speed	Crank wheel
Second trigger active on	Rising edge
and every rotation of..	Cam