6 Ignition system - specific operating modes

The Megasquirt range supports many different tach input and output schemes including many OEM specific configurations.

For installations on engines without a supported tach input, a 36-1 trigger wheel on the crankshaft is the suggested setup.

Here are all of the 'spark modes' supported by the Megasquirt-2 product range and whether they support wasted spark (W/S) and COP/seq (coil-on-plug or sequential fuel) or not on a 4-stroke engine. 2-stroke engines only need a missing tooth wheel on the crankshaft for sequential fuel and spark.

Note that even if your trigger input could support COP/sequential, your ECU may not have enough outputs.

Spark Mode	Cam input needed ?	W/S ?	COP /seq ?	Applications
Fuel only	N	N	N	Various for fuel only (no spark control)
EDIS	N	Y	N	Early to mid 1990s Fords 4,6,8cyl
Basic trigger (distributor)	N	N	N	Widespread - HEI7, GMDIS, TFI, distributor
Trigger Return	N	N	N	Typically 1980s VW hall distributors
Toothed wheel "Missing tooth wheel" on crank "Missing tooth wheel" on cam "Missing tooth wheel" on crank + single tooth on cam "Dual wheel" non missing on crank + single tooth on cam (36-1, 60-2, 4-1, 24/1, 24/2, 6-1 etc.)	Varies	Varies	Varies	Ford, Bosch ECUs, very widespread. e.g. Ford, BMW, Vauxhall/Opel, many Japanese vehicles using Nippondenso CAS, GM LS2 **This is the most common selection covering thousands of installs.** See detail pages for all variations
Neon/420A	N	Y	If cam used	420A Neons
36-2+2	N	Y	If cam used	"Next Generation" Crank Chryslers
36-2-2-2	N	Y	If cam used	Some Subaru and Mazda RX8
Miata 99-00	Y	Y	Y	1999-2005 Miata with 4 tooth crank trigger and 1,2 cam trigger. VVT not supported on Megasquirt-2
Subaru 6/7	Y	Y	Y	Subarus flat fours
6G72	Y	Y	Y	
IAW Weber*	Y	Y	Y	Fiat / Cosworth engines with 4 tooth crank trigger and uneven distributor trigger.
CAS 4/1*	Y	Y	Y	
4G63	Y	Y	Y	Mitsubishi, Mazda Miata (MX5)
Twin trigger*	(Y)	Y	N	Bike engine with one reluctor and two trigger coils. Typically 4 cylinder wasted-spark.