

REV COUNTER – SMITHS

MGB

Part Number: BHA5212



Caution: disconnect the negative battery terminal prior to any electrical installation.

For fitment to **negative earth** vehicles *only*.

Operating voltage: 11 – 17volts DC –

Input signal:

Petrol Engines

- Contact breaker ignition (coil)
- ECU tachometer output

Diesel Engines

- Alternator (W terminal) - Calibration, switch 8 should always be in the 'on' position.

Fitting Recommendations

To avoid electrical interference affecting the Tachometer we recommend using 5K suppressed spark plug caps or use resistive spark plugs.

Suppressed silicon HT leads without suppressed caps, seem to be less effective at curbing interference that causes fluctuating pointer issues.

If you are using boost ignitions, like Petronix or 123 (Dizzy), they sometimes cause multiple triggering of various makes of electronic Tacho, you may have to add an extra 20K (20,000) Ohm ¼ watt resistor in line with Tacho input wire. 123's manufacturer recommends putting a 1N4006 or 1N4007 diode in line with the input from the ignition coil, silver line on diode nearest to the Tacho.



Harness connections		
Wire Colour	Pin No.	Connect to
Brown/slate	1	Pull up or Red/Blue for open collector ECU output very rarely used.
Red/white	2	Illumination 12volt supply (side light feed)
Red/blue	3	Tacho output from contact breaker to negative side of coil, ECU or alternator 'W' terminal
White/black	4	If tacho fails to operate smoothly, the signal may be of a high sensitivity. Use this wire instead of red/blue wire (above).
Black	5	Ground/Chassis or battery negative
Green	6	Switched ignition positive 12volt supply (via 3A fuse)

Calibration

The tachometer is calibrated/programmed by setting a combination of seven switches located under the grommet on the back case. Remove grommet to access the switches.

Notes:

- The switch setting must be completed with the power off.
- Set the switches prior to installing the tachometer.

The table below shows the switch settings relative to the number of pulses per engine revolution.

To assist with the switch setting, the table below shows the number of pulses per engine revolution versus the number of cylinders for both single spark and 'wasted' spark ignitions.



Petrol Engines Only

Number of Cylinders	PPR - Pulses per Revolution	
	Single Spark Ignition	Wasted Spark Ignition
1	0.5	1
2	1	2
3	1.5	3
4	2	4
6	3	6
8	4	8
10	5	10
12	6	12

Diesel Engines

Only Pulses per engine revolution (PPR) is equal to the number of alternator pole pairs multiplied by the crank to alternator pulley ratio.

Switch Settings

Switch setting '1' signifies ON

Switch setting '2' signifies OFF

Setting example:

Four-cylinder, single spark engine

PPR is 2

From table, switch setting is:

Sw1	sw2	sw3	sw4	sw5	sw6	sw7
1	1	0	0	0	0	0
on	on	off	off	off	off	off

Note: Switch number 8 should always be in the 'on' position



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Switch settings							PPR No.
sw1	sw2	sw3	sw4	sw5	sw6	sw7	
0	0	0	0	0	0	0	0.5
1	0	0	0	0	0	0	1
0	1	0	0	0	0	0	1.5
1	1	0	0	0	0	0	2
0	0	1	0	0	0	0	3
1	0	1	0	0	0	0	4
0	1	1	0	0	0	0	5
1	1	1	0	0	0	0	6
0	0	0	1	0	0	0	8
1	0	0	1	0	0	0	8.1
0	1	0	1	0	0	0	8.2
1	1	0	1	0	0	0	8.3
0	0	1	1	0	0	0	8.4
1	0	1	1	0	0	0	8.5
0	1	1	1	0	0	0	8.6
1	1	1	1	0	0	0	8.7
0	0	0	0	1	0	0	8.8
1	0	0	0	1	0	0	8.9
0	1	0	0	1	0	0	9
1	1	0	0	1	0	0	9.1
0	0	1	0	1	0	0	9.2
1	0	1	0	1	0	0	9.3
0	1	1	0	1	0	0	9.4
1	1	1	0	1	0	0	9.5
0	0	0	1	1	0	0	9.6
1	0	0	1	1	0	0	9.7
0	1	0	1	1	0	0	9.8
1	1	0	1	1	0	0	9.9
0	0	1	1	1	0	0	10
1	0	1	1	1	0	0	10.1
0	1	1	1	1	0	0	10.2
1	1	1	1	1	0	0	10.3
0	0	0	0	0	1	0	10.4
1	0	0	0	0	1	0	10.5
0	1	0	0	0	1	0	10.6
1	1	0	0	0	1	0	10.7
0	0	1	0	0	1	0	10.8
1	0	1	0	0	1	0	10.9
0	1	1	0	0	1	0	11
1	1	1	0	0	1	0	11.1
0	0	0	1	0	1	0	11.2
1	0	0	1	0	1	0	11.3
0	1	0	1	0	1	0	11.4
1	1	0	1	0	1	0	11.5
0	0	1	1	0	1	0	11.6
1	0	1	1	0	1	0	11.7
0	1	1	1	0	1	0	11.8
1	1	1	1	0	1	0	11.9



Triumph House, Sleaford Road, Bracebridge Heath, Lincoln, LN4 2NA, England
 Telephone: 01522 568000 | E-mail: sales@rimmerbros.com

www.rimmerbros.com

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Switch settings							PPR No.
sw1	sw2	sw3	sw4	sw5	sw6	sw7	
0	0	0	0	1	1	0	12
1	0	0	0	1	1	0	12.1
0	1	0	0	1	1	0	12.2
1	1	0	0	1	1	0	12.3
0	0	1	0	1	1	0	12.4
1	0	1	0	1	1	0	12.5
0	1	1	0	1	1	0	12.6
1	1	1	0	1	1	0	12.7
0	0	0	1	1	1	0	12.8
1	0	0	1	1	1	0	12.9
0	1	0	1	1	1	0	13
1	1	0	1	1	1	0	13.1
0	0	1	1	1	1	0	13.2
1	0	1	1	1	1	0	13.3
0	1	1	1	1	1	0	13.4
1	1	1	1	1	1	0	13.5
0	0	0	0	0	0	1	13.6
1	0	0	0	0	0	1	13.7
0	1	0	0	0	0	1	13.8
1	1	0	0	0	0	1	13.9
0	0	1	0	0	0	1	14
1	0	1	0	0	0	1	14.25
0	1	1	0	0	0	1	14.5
1	1	1	0	0	0	1	14.75
0	0	0	1	0	0	1	15
1	0	0	1	0	0	1	15.25
0	1	0	1	0	0	1	15.5
1	1	0	1	0	0	1	15.75
0	0	1	1	0	0	1	16
1	0	1	1	0	0	1	16.25
0	1	1	1	0	0	1	16.5
1	1	1	1	0	0	1	16.75
0	0	0	0	1	0	1	17
1	0	0	0	1	0	1	17.25
0	1	0	0	1	0	1	17.5
1	1	0	0	1	0	1	17.75
0	0	1	0	1	0	1	18
1	0	1	0	1	0	1	18.25
0	1	1	0	1	0	1	18.5
1	1	1	0	1	0	1	18.75
0	0	0	1	1	0	1	19
1	0	0	1	1	0	1	19.25
0	1	0	1	1	0	1	19.5
1	1	0	1	1	0	1	19.75
0	0	1	1	1	0	1	20
1	0	1	1	1	0	1	20.25
0	1	1	1	1	0	1	20.5
1	1	1	1	1	0	1	20.75



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sw1	sw2	sw3	sw4	sw5	sw6	sw7	
0	0	0	0	0	1	1	21
1	0	0	0	0	1	1	21.25
0	1	0	0	0	1	1	21.5
1	1	0	0	0	1	1	21.75
0	0	1	0	0	1	1	22
1	0	1	0	0	1	1	22.25
0	1	1	0	0	1	1	22.5
1	1	1	0	0	1	1	22.75
0	0	0	1	0	1	1	23
1	0	0	1	0	1	1	23.25
0	1	0	1	0	1	1	23.5
1	1	0	1	0	1	1	23.75
0	0	1	1	0	1	1	24
1	0	1	1	0	1	1	24.25
0	1	1	1	0	1	1	24.5
1	1	1	1	0	1	1	24.75
0	0	0	0	1	1	1	25
1	0	0	0	1	1	1	25.25
0	1	0	0	1	1	1	25.5
1	1	0	0	1	1	1	25.75
0	0	1	0	1	1	1	26
1	0	1	0	1	1	1	26.25
0	1	1	0	1	1	1	26.5
1	1	1	0	1	1	1	26.75
0	0	0	1	1	1	1	27
1	0	0	1	1	1	1	27.25
0	1	0	1	1	1	1	27.5
1	1	0	1	1	1	1	27.75
0	0	1	1	1	1	1	28
1	0	1	1	1	1	1	28.25
0	1	1	1	1	1	1	28.5
1	1	1	1	1	1	1	28.75

