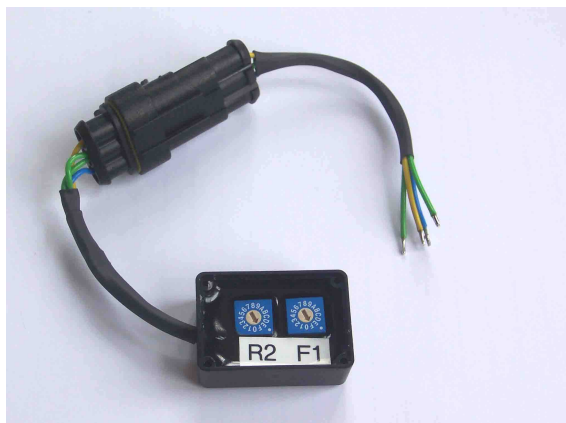




## **RS250 – 16 settings Curve Changer**

Change your ignition-timing map the easy way



(shown with outer cover removed )

The Curve Changer will alter and improve your ignition map profile.

The reason the curve changer works is that the standard ignition is a generalisation for all ... it is not too difficult to tune, suitable for all fuels, all gearing, etc. After designing a programmable ignition for the RS250 and RS250 Kit crank, the largest requirement was to increase the drive area advance, without then causing the over rev to 'brick wall' do to its increased compression effect. A simpler lower cost unit could provide this requirement. ... The curve changer

The largest advantage is in the increase in the spread of power

The 16 settings unit is an enhancement of the standard RS250 Curve Changer. It allows a switch selectable range of map alteration.

By using fixed switch values the result is accurate and repeatable.

The switch has 16 positions 0...9, A, B, C, D, E, and F:

- (0) Is 80% of the standard curve changer value.
- (8) Is the same as the standard curve changer value.
- (F) Is 120% of the standard curve changer value.

Each switch position is a step increase in the curve changer value. With a changing the curve changer switch values the static advance will need to be advanced.

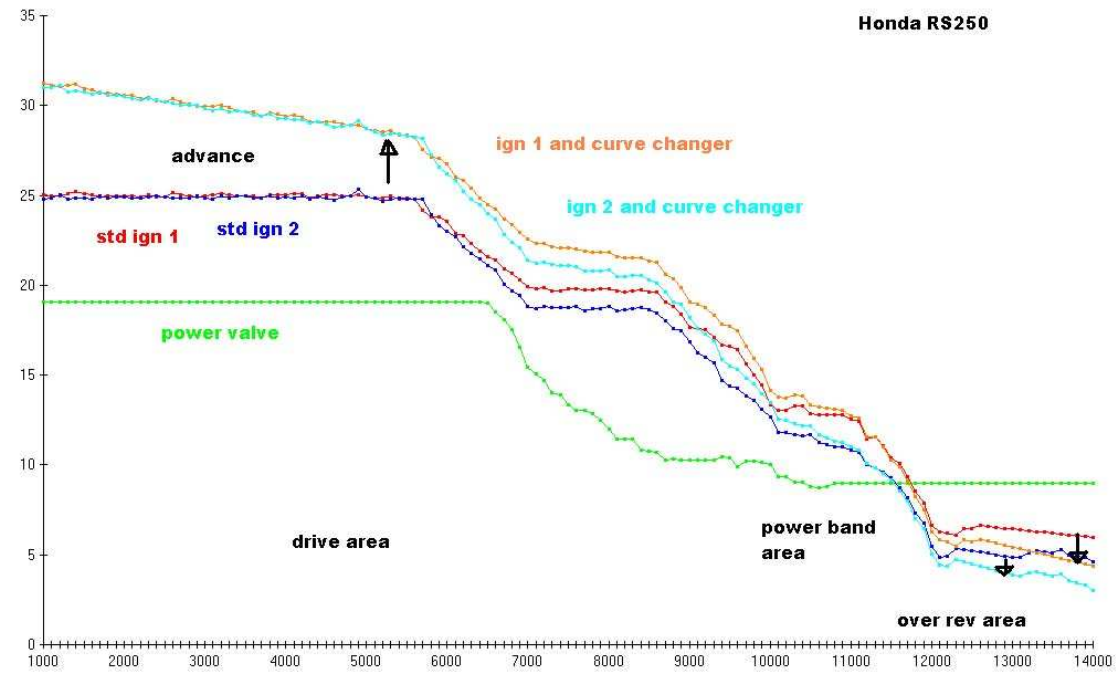
The unit is mounted using velco provided, The switches are waterproof and the unit should be operated with the cover on

**The switch closest to the cable marked R2 controls the Rear No2 cylinder.**

**The switch away from the cable market F1 controls the Front No1 cylinder.**

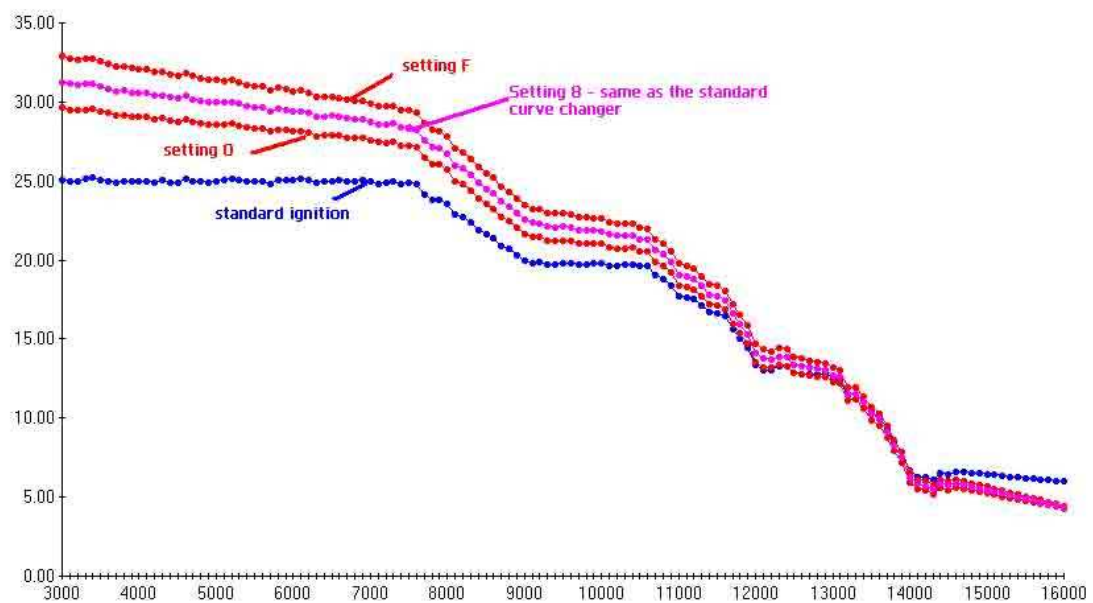
**Fig 1. Standard RS250 Curve Changer**

This diagram shows both the ignition curves the power jet and power valve action with RPM. The standard curve changer enables increased advance in the drive area and over rev retard.



**Fig 2. 16 setting TZ250 Curve Changer**

This diagram shows the effects of the range of the 16 settings, allowing the user to fine tune the ignition map.



## **Installation Procedure**

### **1. Advance the static timing**

#### Initial base setting

Set the curve changer unit to switch position 8

Advance the static plate by 8 degrees; this may require a slight widening of the slots.

#### **ROTATE THE IGNITION ADJUSTER PLATE ANTI-CLOCKWISE**

Measure in rotation mm:

0.97mm per degree at the plate marked edge – 8 degrees is 7.7mm

( 0.73mm per degree at the pick-up surface - 8 degrees is 5.8mm )

#### Fine Adjustment

If the over-rev is brick walling (will not rev out at max RPM) but has strong acceleration then turn the curve changer switch **up** one setting

If the over-rev is higher, but the acceleration not strong, then turn the curve changer switch **down** one setting

#### Specialist setting

To increase the curve changer effect (drive advance and over-rev) and retain the mid range, the static plate needs to be advanced more and at the same time the curve changer setting increased to return the timing to the correct level:

For 6 degrees = 5.8mm at ignition adjuster plate (at pick-up 4.4mm) = Setting 0

For 7 degrees = 6.8mm at ignition adjuster plate (at pick-up 5.1mm) = Setting 4

For 8 degrees = 7.7mm at ignition adjuster plate (at pick-up 5.8mm) = Setting 8

For 8.5 degrees 8.2mm at ignition adjuster plate (at pick-up 6.2mm) = Setting A

For 9 degrees = 8.7mm at ignition adjuster plate (at pick-up 6.6mm) = Setting F

### **2. Connect the curve Changer**

Solder the Curve Changer wires onto these wires as follows:

Curve Changer Yellow to 'White with Yellow stripe'

Curve Changer Blue to 'White with Blue stripe'

Curve Changer Green to 'green with Blue stripe' (some models this is just green)

Curve Changer Green to 'green with Blue stripe' (some models this is just green)

It does not matter which green to which green/blue they are the same connection

Tape the joins with tape. Pull back the outer sleeving. Plug in the curve changer.

By using a tyrap, or the Velcro on the unit, the Curve Changer then can easily be fastened to the front of the frame, for easy adjustment access.

### **3. Check**

Remember to allow for carburetion changes, increase the main by 2 jet sizes to be safe. Use of a detonation indicator or counter is recommended.

Other products:

This and curve changers for RS125/ RS250 / TZ250 are designed and manufactured by April Systems Design Ltd the designers of the BPS range of engine control equipment and cougar datarecording logging systems: RS125 special / GP max and GP max PV, RS 250 special and kit crank, YZR500 / NSR500 units.

[ww.aprilsystems.net](http://ww.aprilsystems.net)

Director: Michael Sharpe, Beng Msc Msc AMIEE

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